LG

VIDEO CASSETTE RECORDER

SERVICE MANUAL

MODEL : AH999P

CAUTION
BEFORE SERVICING THE UNIT, READ THE "SAFETY PRECAUTIONS" IN THIS MANUAL.

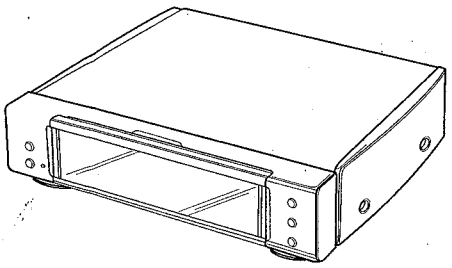


TABLE OF CONTENTS

SECTION 1
SUMMARY

KEY TO ABBREVIATIONS **1-1**
IMPORTANT SAFETY PRECAUTIONS **1-2**
- Precautions During Servicing

SAFETY CHECK AFTER SERVICING **1-3**
- Insulation resistance test
- Dielectric strength test
- Clearance distance
- Leakage current test

SPECIFICATIONS **1-4**
LOCATION OF CUSTOMER CONTROLS **1-5**

SECTION 2
CABINET & MAIN CHASSIS

SERVICE METHOD **2-1**
Electrical Part 2-1
EXPLODED VIEWS **2-2**
1. Cabinet & Main Frame Section 2-2
2. Packing & Accessory Section 2-3
3. Remote Control Section 2-4

SECTION 3
ELECTRICAL

ELECTRICAL ADJUSTMENT POINTS ARRANGEMENT .3-1
ELECTRICAL ADJUSTMENT PROCEDURES . . 3-2
1. Servo Circuit 3-2
BLOCK & CIRCUIT DIAGRAMS ..... **.3-3**
1. Power Block Diagram 3-3
1. Power Circuit Diagram 3-5
2. Tuner/IF Block Diagram 3-7
2. Tuner/IF Circuit Diagram 3-9
3. Y/C Block Diagram 3-11
3. A/V Circuit Diagram 3-13
4. Hi-Fi Block Diagram 3-16
4. Hi-Fi, SCART Block Diagram 3-17
4. Hi-Fi, SCART Circuit Diagram 3-19
5. NICAM, A2 Block Diagram 3-21
5. NICAM, A2 Circuit Diagram 3-23
6. System Block Diagram 3-25
6. System Circuit Diagram 3-27
PRINTED CIRCUIT BOARD DIAGRAMS ..... **.3-29**
1. MAIN P.C.Board 3-29
2. NICAM & A2 P.C.Board 3-31
3. Timer P.C.Board 3-31

SECTION 4
MECHANISM

NOTE) The table of contents for this section is edited separately.

SECTION 5
REPLACEMENT PARTS LIST

- Mechanical Section 5-1
- Electrical Section 5-6

SECTION1 SUMMARY
KEY TO ABBREVIATIONS

A	AC	:Alternating Current
	ACC	:Automatic Color Control
	ACSS	:Automatic Channel Setting System
	ADJ	:Adjust
	A/E	:Audio Erase
	AFC	:Automatic Frequency Control
	AFT	:Automatic Fine Tuning
	AGC	:Automatic Gain Control
	A.H.SW	:Audio Head Switch
	ALC	:Automatic Level Control
	AM	:Amplitude Modulation
	AMP	:Amplifier
	ANT	:Antenna
	APC	:Automatic Phase Control
	ASS'Y	:Assembly
	AUX	:Auxiliary
B	B	:Base
	BGP	:Burst Gate Pulse
	BPF	:Bandpass Filter
	BS	:Brodcasting Satellite
	BW or B/W	:Black and White
C	C	:Capacitor, Chroma, Collector
	CAN	:Cancel
	CAP	:Capstan
	CAP.BRK	:Capstan Brake
	CAP.RVS	:Capstan Reverse
	CATV	:Cable Television
	CBA	:Circuit Board Assembly
	CCD	:Charge Coupled Device
	C.CTL	:Chro Control, Capstan Control
	CFG	:Capstan Frequency Generator
	CHROMA	:Chrominance
	CNR	:Chroma Noise Redution
	COMB	:Combination Comb Filter
	COMP	:Comparator Composite Compensation
	CONV	:Converter
	C.ROT SW	:Color Rotary Switch
	CS	:Chip Selcet
	C.SYNC	:Composite Synchronization
	CTL DIV	:Control Divide
	CUR	:Current
	CYL	:Cylinder
D	D	:Drum, Digital, Diode, Drain
	D.ADJ	:Drum Adjust
	DC	:Direct Current
	D.CTL	:Drum Control
	DEMOD	:Demodulator
	DET	:Detector
	DEV	:Deviation
	DHP	:Double High Pass
	DIGITRON	:Digital Display Tube
	DL	:Delay line
	DOC	:Drop Out Compensator
	DUB	:Dubbing
	D.V SYNC	:Dummy Vertical Synchronization
E	E	:Emitter
	EE	:Electric to Eletric
	EMPH	:Emphasis
	ENA	:Enable
	ENV	:Envelope
	EP	:Extended Play
	EQ	:Equalizer
	EXP	:Expander
F	F	:Fuse
	FB	:Feed Back
	FBC	:Feed Back Clamp
	FE	:Full Erase
	FG	:Frequency Generator
	FL	:Filter
	FM	:Frequency Modulation
	F/R	:Front/Rear
	FS	:Frequency Synthesizer
	FSC	:Subcarrier Frequency
	F/V	:Frequency Voltage
G	GEN	:Generator
H	H	:High, Horizontal
I	IC	:Integrated Circuit
	IF	:Intermediate Frequency
	INS	:Insert
L	L	:Low, Left, Coil
	LD	:LED
	LD VTG CTL	:Loading Voltage Control
	LECHA	:Letter Character
	L.M	:Level Meter
	LP	:Long Play
	LPF	:Low Pass Filter
M	MAX	:Maximum
	MD	:Modulator
	MECHA.CTL	:Mechanism Control
	MIC	:Microphone
	MIN	:Minimum
	MIX	:Mixer, Mixing
	M.M.	:Monostable, Multivibrator
	MMV	:Mono Multi Vibrator
	MOD	:Modulation, Modulator
	MODEM	:Modulator-Demodulator
	MPX	:Multiplex
N	NR	:Noise Reduction
O	OSC	:Oscillator
	OSD	:On Screen Display
P	PB	:Playback
	PCB	:Printed Circuit Board
	P.CTL	:Power Control
	PRE-AMP	:Preamplifier
	P.F	:Power Failure
	PG	:Pulse Generator
	PLL	:Phase Locked Loop
	PREM.DET	:Premire Detect
	P.P	:Peak-to-Peak
	PS	:Phase Shift
	PWM	:Pulse Width Modulation
	PWR CTL	:Power Control
Q	Q	:Transistor
	QH	:Quasi Horizontal
	QSR	:Quick Setting Record
	QTR	:Quick Timer Record
	QV	:Quasi Vertical
R	R	:Resistor, Right
	RE(or RC)	:Remocon, Receiver
	REC	:Recording
	REC S 'H'	:Record Start 'Hight'
	REF	:Reference
	REG	:Regulated, Regulator
	REMOCON	:Remote Control(unit)
	RF	:Radio Frequency
	R/P	:Record/Playback
	RTC	:Reel Time Counter
S	S	:Serial
	S.ACCEL	:Slow Accel
	SAOP	:Second Audio Program
	SC	:Scart, Simulcast
	S.DET	:Secam Detect
	SH	:Shift
	SHARP	:Sharpness
	SIF	:Sound Intermediate Frequency
	SLD	:Side Locking
	S/N	:Signal to Noise Ratio
	SP	:Standard Play
	ST	:Stereo
	SUB	:Subtract, Subcarrier
	SW or S/W	:Switch
	SYNC	:Synchronization
	SYSCON	:System Control
T	T	:Coil
	TP	:Test Point
	TR	:Transistor
	TRK	:Tracking
	TRANS	:Transformer
	TU	:Tuner, Take-up
U	UHF	:Ultra High Frequency
	UNREG	:Unregulated
V	V	:Volt, Vertical
	VA	:Always Voltage
	VCO	:Voltage Controlled Oscillator
	VGC	:Voltage Gain Control
	VHF	:Very High Frequency
	V.H.SW	:Video Head Switch
	VISS	:VHS Index Search
	VPS	:Video Program System
	VR	:Variable Resistor or Volume
	V-SYNC	:Vertical Synchronization
	VTG	:Voltage
	VV	:Voltage to Voltage
	VXO	:Voltage X-tal Oscillator
W	W	:Watt
	WHT	:White
	W/O	:With out
X	X-TAL	:Crystal
Y	Y/C	:Luminance/Chrominance
	YNR	:Luminance Noise Reduction
Z	ZD	:Zener Diode

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, the products are strictly inspected to confrom with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

• Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▩) parts are critical for safety.
   Replace only with specified part numbers.
   Note : Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Use Specified internal wiring. Note especially:
   1) Double insulated wires
   2) High voltage leads

4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistor

5. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

6. Check that replaced wires do not contact sharp edged or pointed parts.

7. 1) When a power cord has been replaced, check that A mark is made on the cord, under strain, near the aperture, and the flexible cord is subjected 100 times to a pull of 40N for a duration of 1 second each.
   2) During the test, the cord shall not be displaced by more than 2mm

8. Also check areas surrounding repaired locations.

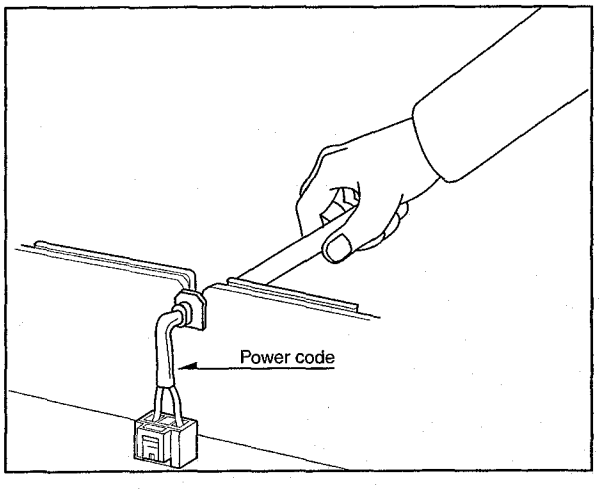


Fig. 1

SAFETY CHECK AFTER SERVICING

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

- **Insulation resistance test**

  confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, incrophone jacks, earphone jacks, etc.) See table below.

- **Dielectric strength test**

  Confirm specified dielectric strength or greater between power cord prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, incrophone jacks, earphone jacks, etc.) See table below.

- **Clearance distance**

  When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table below.

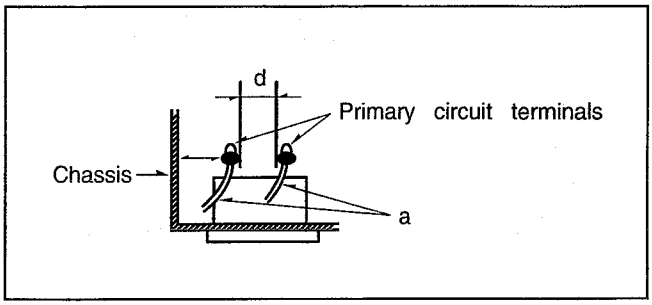


Fig. 2

Table 1 : Ratings for selected areas

AC Line Voltage	Region	Insulation Resistance	Dielectric Strength	Clearance Distance(d),(d)
*100 to 130 V 200 to 240 V	Europe Australia	≧ 10 MΩ/500 V DC	4kV 1 minute	≧ 6mm(d) ≧ 8mm(d) (a Power cord)

* Class II model only.

Note. This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

- **Leakage Current test**

  Confirm specified or lower leakage current between B(earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.)

  Measuring Method: (Power ON)
  Insert load Z between B(earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure and following table.

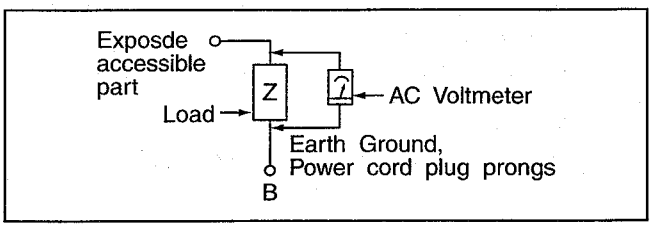


Fig. 3

Table 2:Leakage current ratings for selected areas.

AC Line Voltage	Region	Load Z	Leakage Current(i)	Earth Ground (B) to :
100 to 130 V	Europe	2kΩ	i ≦ 0.7m A peak i ≦ 2m A DC	Antenna earth terminals
200 to 240 V	Australia	50kΩ	i ≦ 0.7m A peak i ≦ 2m A DC	Other terminals

Note. This table is for IEC member only. Be sure to confirm the precise values for your particular country and locality.

SPECIFICATIONS

General

Power	: 200~240V, 50Hz
Power consumption	: Approx. 20 watts(Energy Saving mode : 3.5watts)
Video Head system	: Double azimuth 4 heads, helical scanning system
Tape speed	: 23.39 mm/sec (SP mode)11.69 mm/sec(LP mode)
Tape format	: Tape width 1/2" (12.7 mm high density VHS tape)
Maximum recording time	: 4 hours in SP mode/8 hours in LP mode (with E-240 tape)
Rewind time	: Approx. 150 sec. (with E-180 tape)
Dimensions (W X H X D)	: 14.2" X 3.6" X 11.4" (360 x 94 x 270 mm)
Weight	: 9.0 lbs. (4.1 kg)
Operating temperature	: 41°F-95°F (5°C-35°C)
Operating humidity	: Less than 80%
Timer	: 24 hours display type

Video

Television system	: CCIR standard (625 lines, 50 fields) PAL/SECAM colour signal
Recording format	: PAL/MESECAM
RF reception	: PAL B/G, SECAM-L
Input level	: VIDEO IN (SCART, RCA type) 1.0 Vp-p, 75 ohm, unbalanced
Output level	: VIDEO OUT (SCART type) 1.0 Vp-p, 75 ohm, unbalanced
Signal to noise ratio	: More than 43 dBm

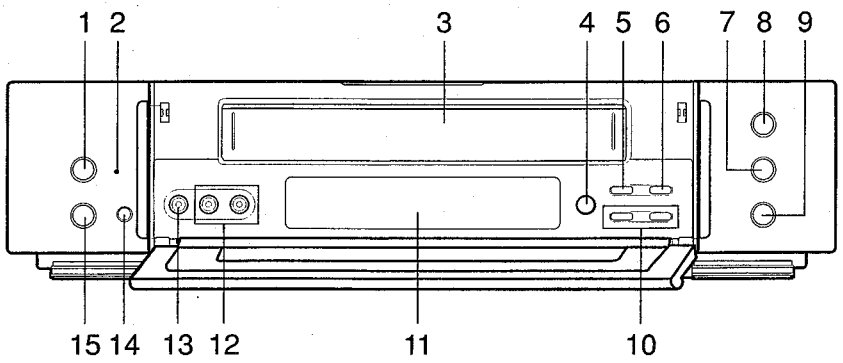
Audio

Input level	: AUDIO IN (SCART, RCA type) Scart type : -5.0dBm, more than 10kΩ RCA type : -5.0 dBm, more than 47kΩ
Output level	: AUDIO OUT (SCART, RCA type) Scart type : -5.0dBm, less than 1kΩ RCA type : -5.0 dBm, less than 1kΩ
Audio track	Mono track & Hi-Fi track
Audio signal to noise ratio	: Normal : More than 70 dBm(JIS A filter)
Audio dynamic range	: Hi-Fi audio : More than 85 dBm(JIS A filter)

• Design and specifications are subject to change without notice.

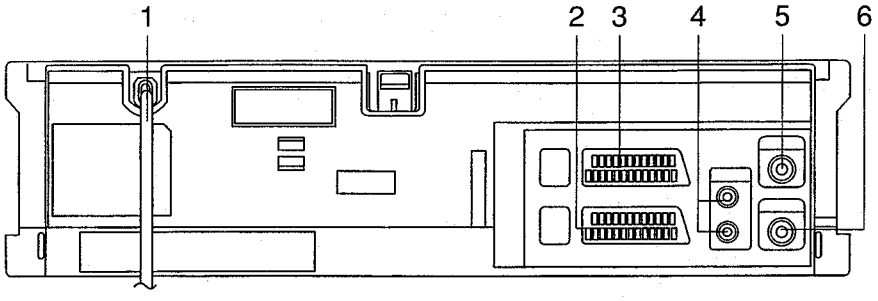
LOCATION OF CUSTOMER CONTROLS

FRONT



1. POWER
2. POWER INDICATOR
3. VIDEO CASSETTE COMPARTMENT
4. OPR
5. P/STILL
6. REC/QSR
7. PLAY
8. FF
9. REW
10. PGOG(▼/▲)
11. MULTI FUNCTION DISPLAY
12. AUDIO INPUT TERMINALS(L/R)
13. VIDEO INPUT TERMINAL
14. REMOTE CONTROL SENSOR
15. STOP & EJECT

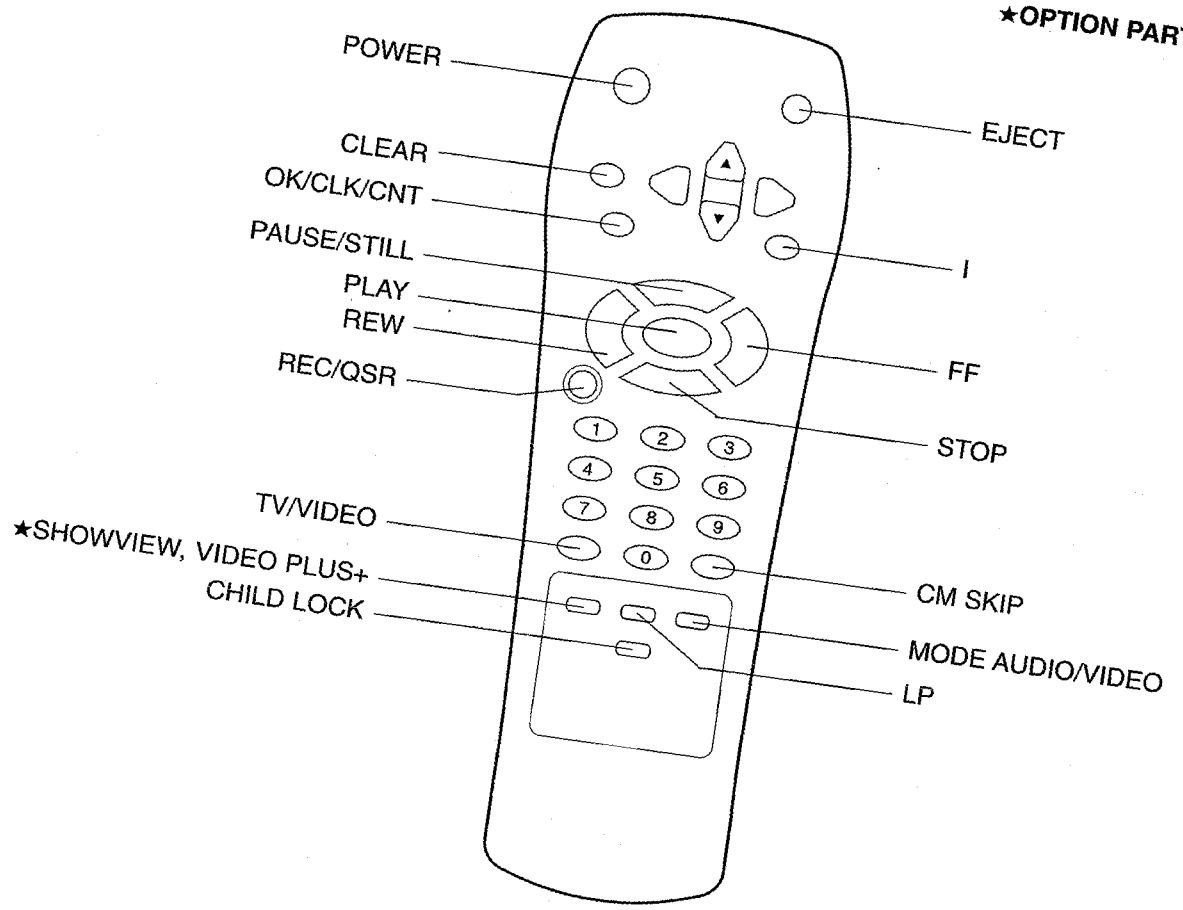
REAR



1. MAINS LEAD
2. EURO AV1
3. PREMIERE
4. AUDIO OUT SOCKETS
5. AERIAL
6. RF.OUT

REMOTE CONTROL

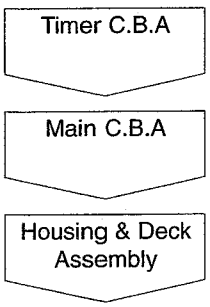
★OPTION PART



SECTION 2 CABINET & MAIN CHASSIS
SERVICE METHOD

Electrical Part

(1) Re-assembly Flow for service like Fig. 2-1



(2) To check and replace Electrical parts
- ① Re-assemble the unit according to No.1) Re-assembly Flow.
- ② Place the unit like Fig. 2-1
- ③ Check and replace Electrical parts.

NOTE :
- ① Insert Video Cassette Tape inversely like Fig. 2-1 to check and replace defective parts.
- ② In disassembling and reassembling, be careful not to damaged CST switch.

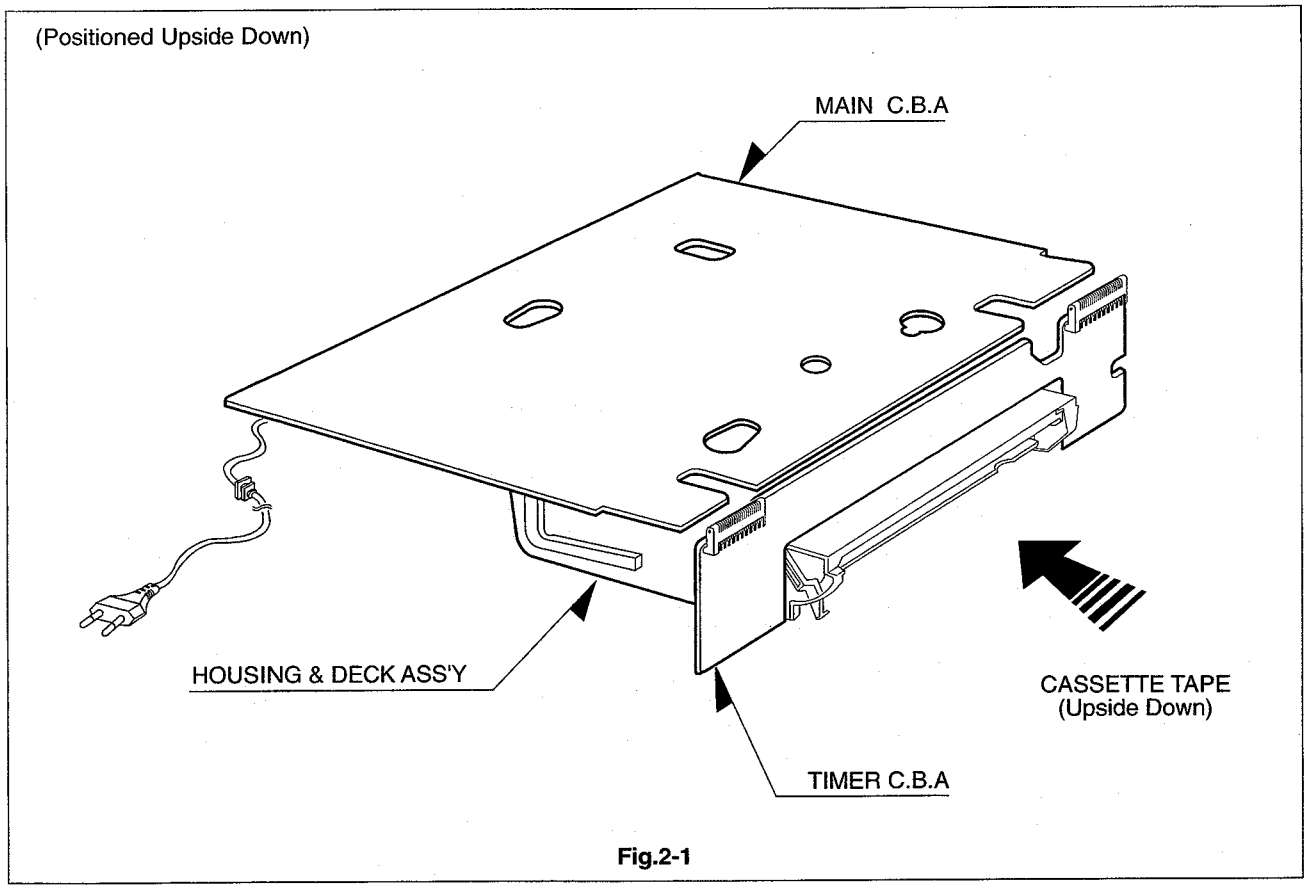
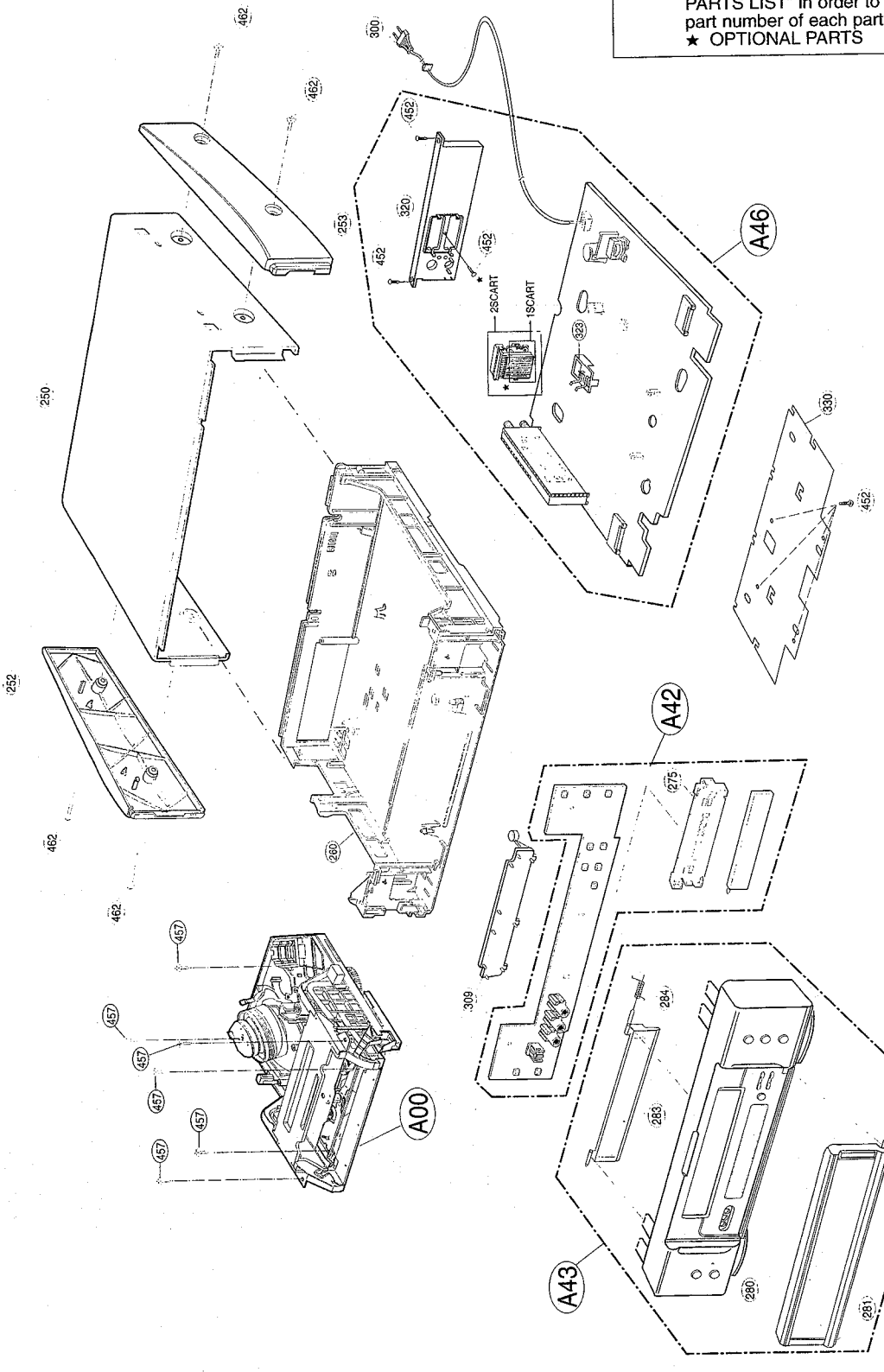


Fig.2-1

EXPLODED VIEWS

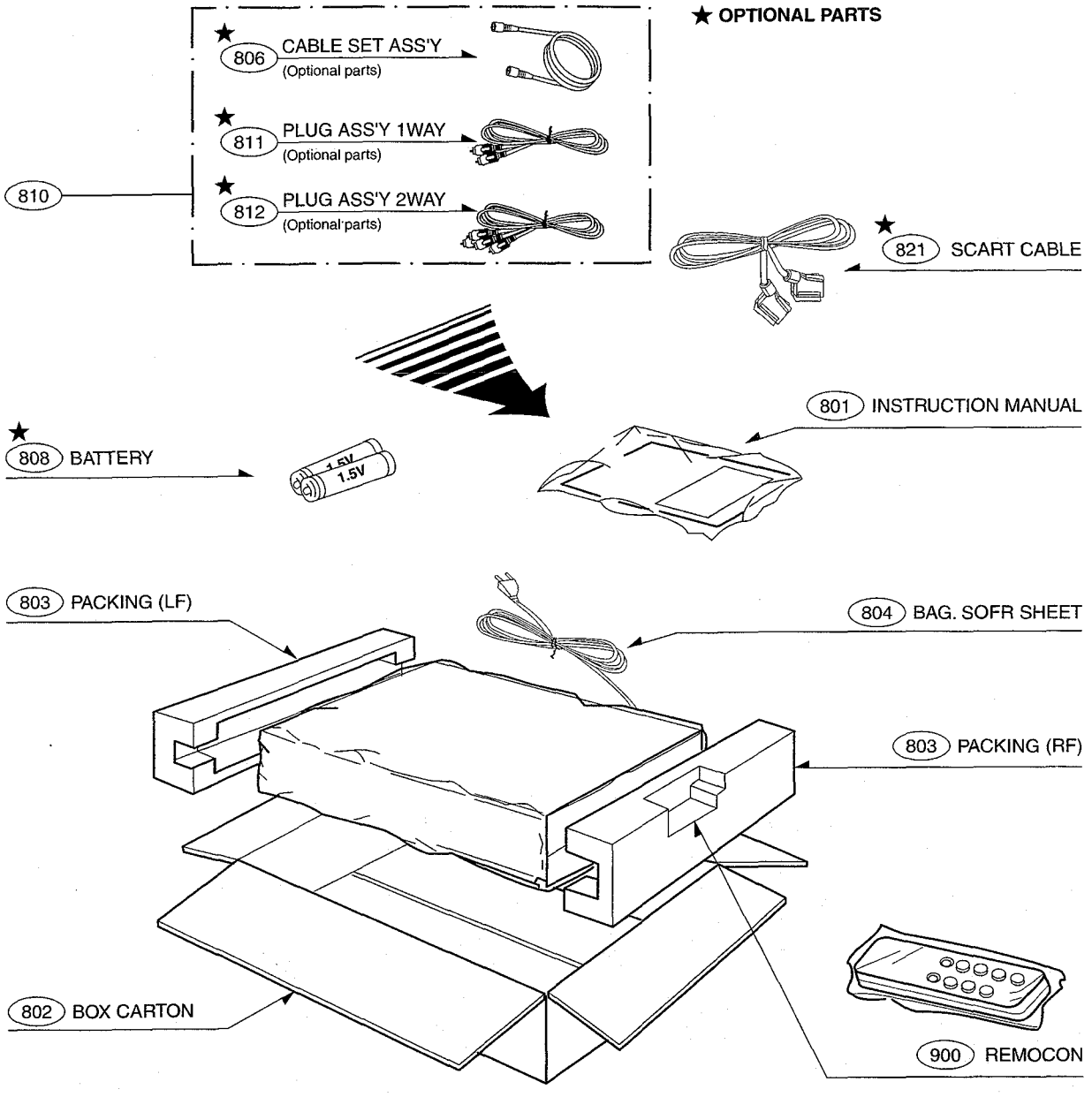
1. Cabinet and Main Frame Section

NOTE) Refer to "SECTION 5 REPLACEMENT PARTS LIST" in order to look for the part number of each part.
★ OPTIONAL PARTS



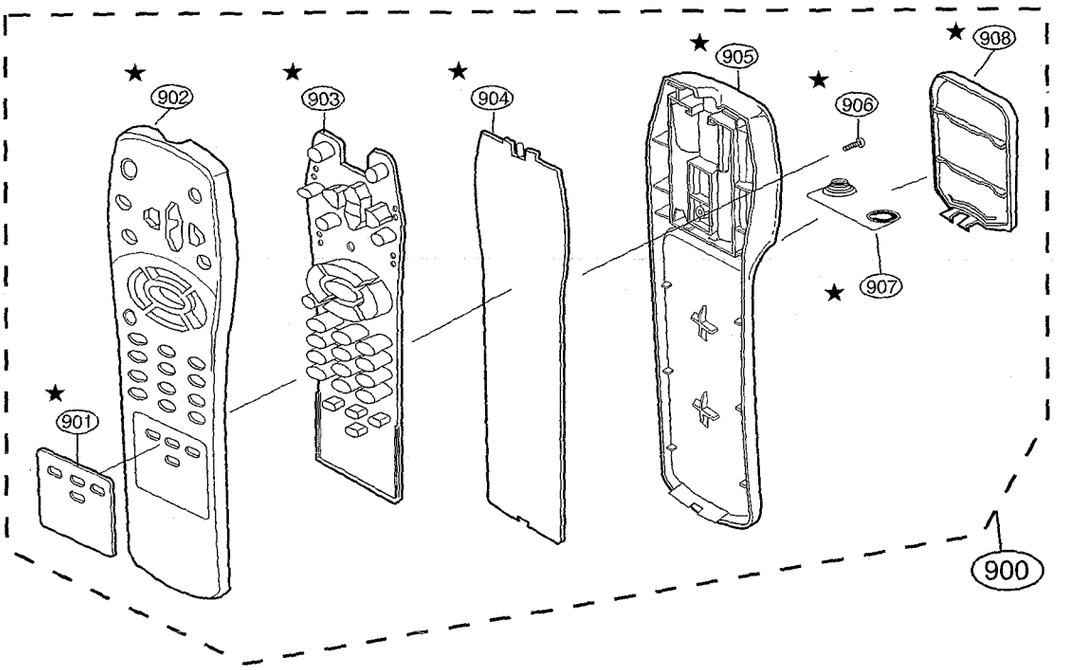
2.Packing Accessory Section

NOTE) Refer to "SECTION REPLACEMENT PARTS LIST in order to look for the part number of each part.



3.Remote Control Section

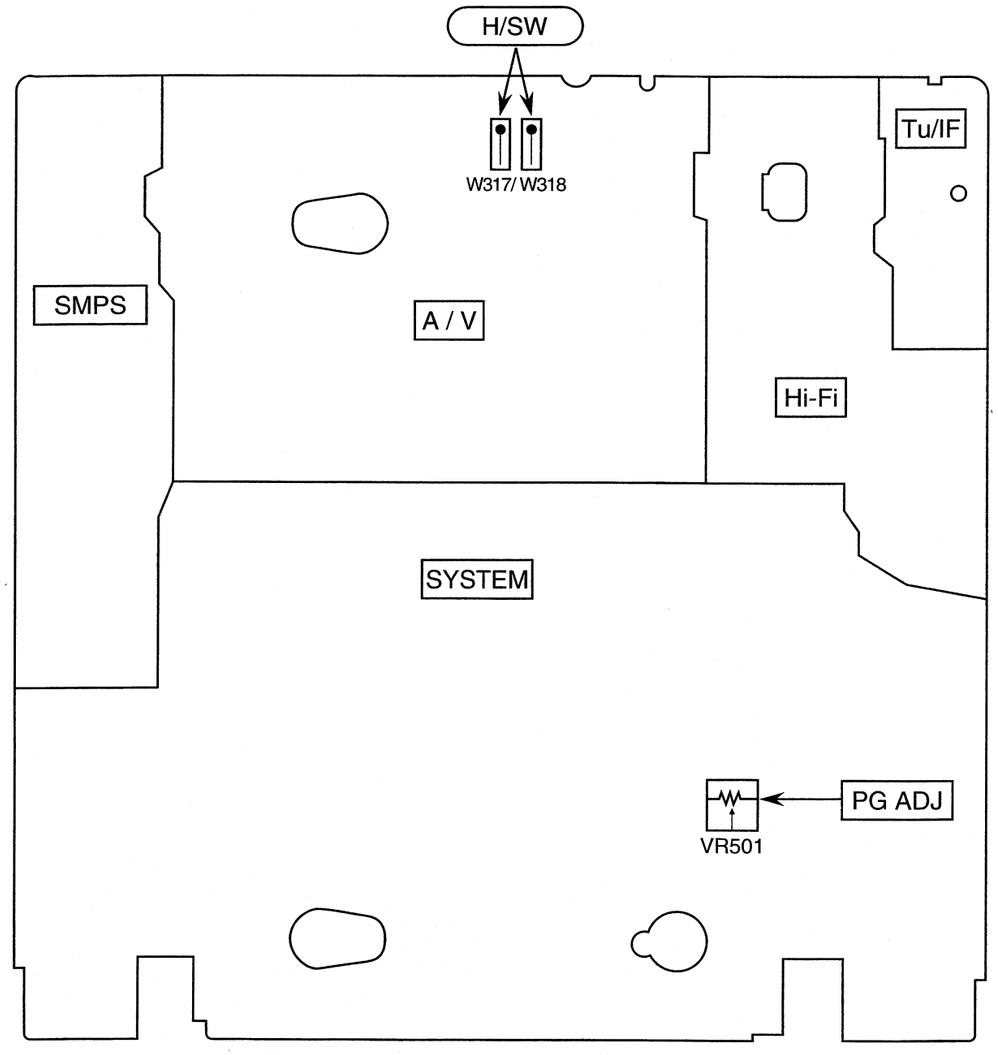
★ OPTIONAL PARTS



MEMO

SECTION 3 ELECTRICAL
ELECTRICAL ADJUSTMENT POINTS ARRANGEMENT

( ) : Measurement point
[ ] : Adjustment point



MAIN P.C.B **(Component Side)**

ELECTRICAL ADJUSTMENT PROCEDURES

1. Servo Adjustment

1) PG Adjustment

• Test Equipment

a) OSCILLOSCOPE
b) PAL TEST TAPE (VHS SP)

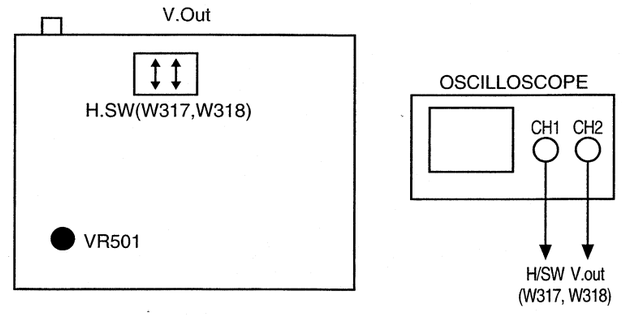
• Adjustment And Specification

MODE	MEASUREMENT POINT	ADJUSTMENT POINT	SPECIFICATION
PLAY	V.Out H/SW(W317, W318)	VR501	6.5 ± 0.5H

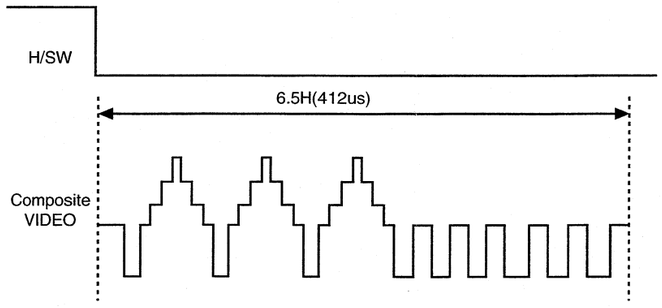
• Adjustment Procedure

a) Insert the PAL SP Test Tape and play.
Note - Adjust the distance of X, pressing the Tracking(+) or Tracking(-) when the "ATR" is blink after the PAL SP Test Tape is inserted.
b) Connect the CH1 of the oscilloscope to the H/SW(W317, 318) and CH2 to the Video Out for the VCR.
c) Trigger the mixed Video Signal of CH2 to the CH1 H.SW(W317, W318), and then check the distance (time difference), which is from the selected A(B) Head point of the H.SW(W317, W318) signal to the starting point of the vertical synchronized signal, to 6.5H ± 0.5H (412μs, 1H=63.5μs).

• CONNECTION

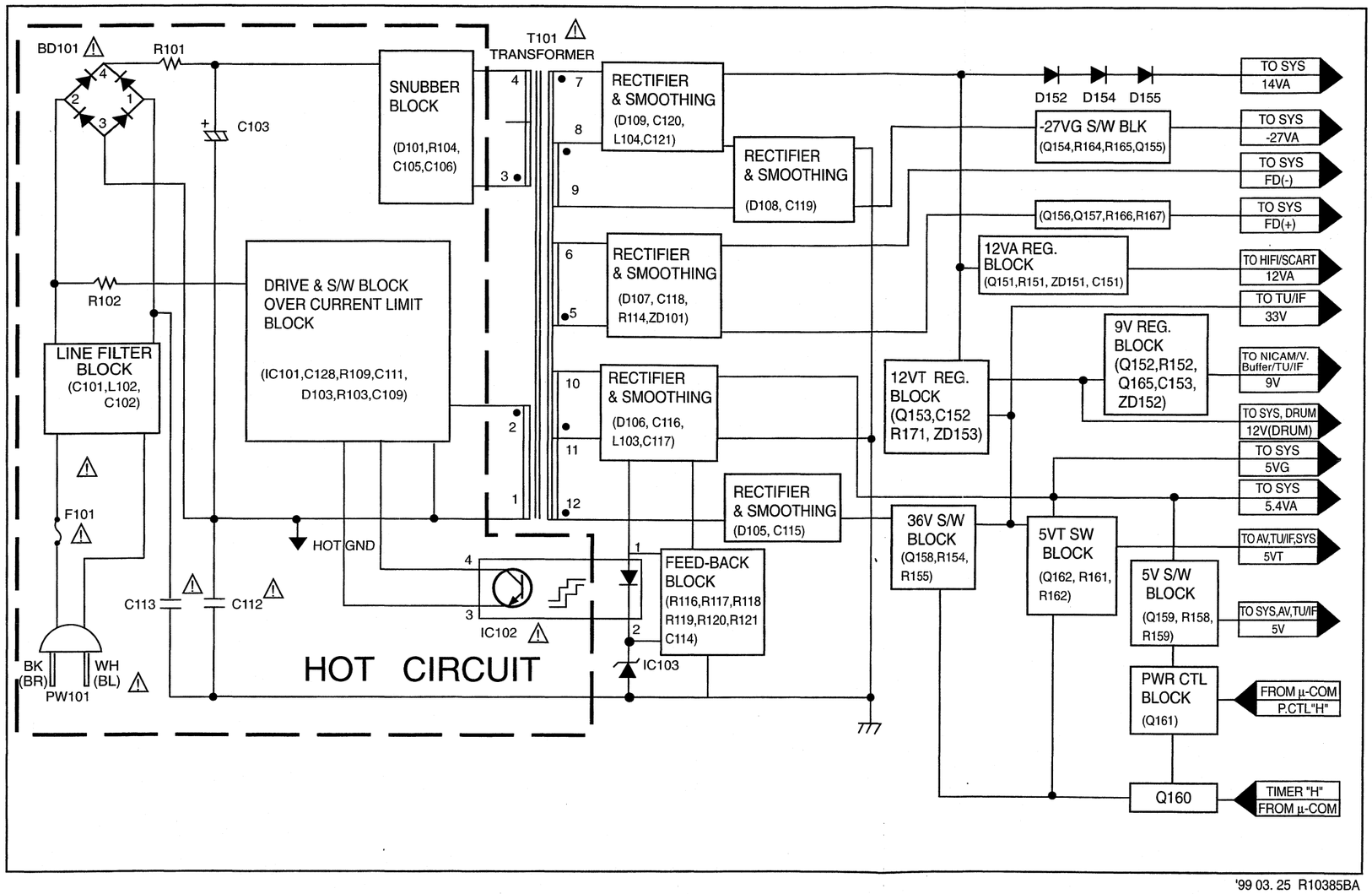


• WAVEFORM



BLOCK & CIRCUIT DIAGRAMS

1. Power Block Diagram



'99 03. 25 R10385BA

NOTES : ⏚ Symbol denotes AC ground.

⏚⏚⏚ Symbol denotes DC chassis ground.

*** IC101 Voltage Sheet**

PB	16.1		4.0
REC	16.3		4.6
	5		
	IC101		
	1		
PB	309	0.0	0.0
REC	309	0.0	0.0

*** IC102 Voltage Sheet**

PB	4.0		0.0
REC	4.0		0.0
	4		
	IC102		
	1		
PB	4.9		3.9
REC	4.9		4.0

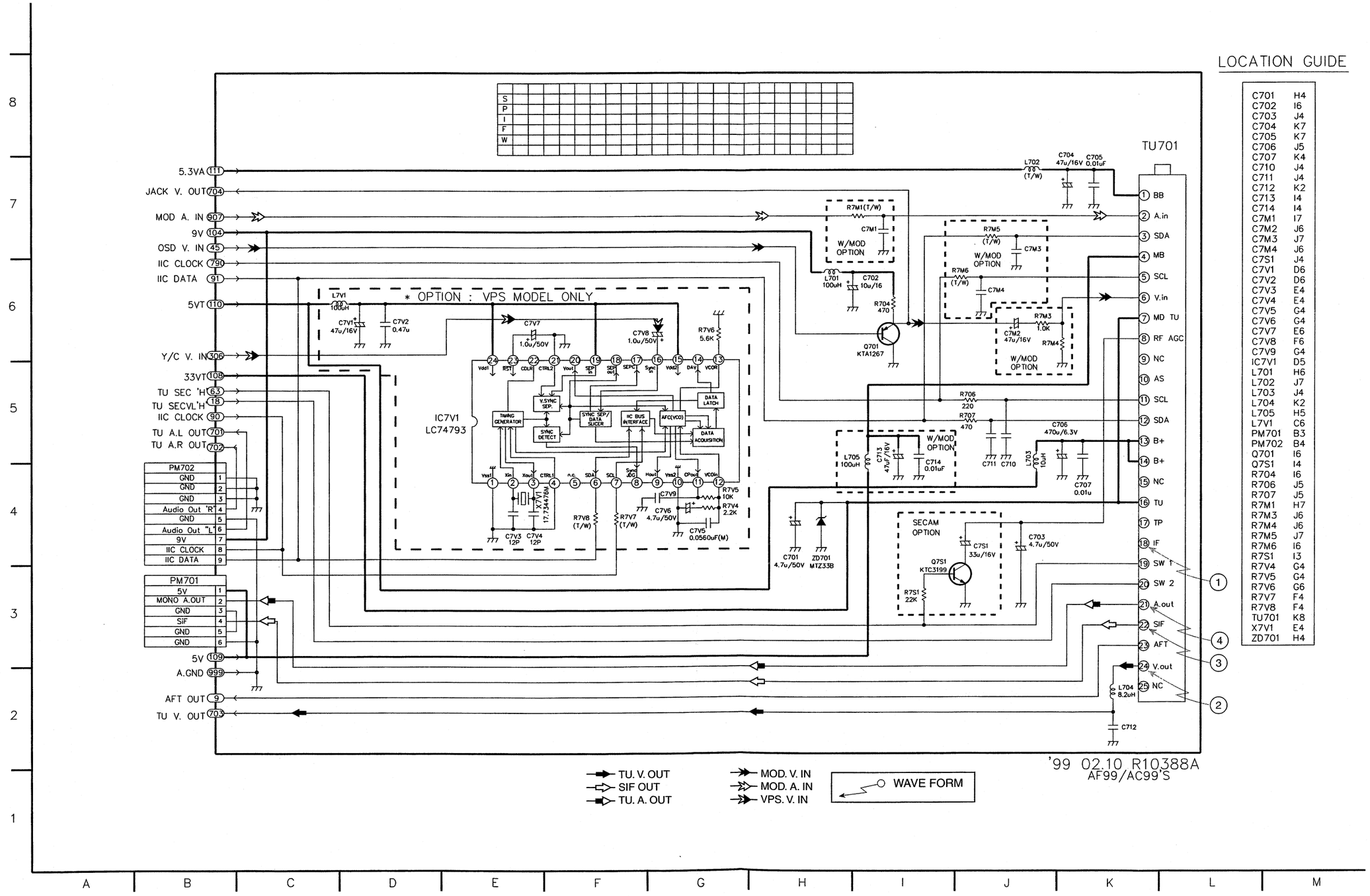
*** IC103 Voltage Sheet**

	Emitter		Collector		Base	
	PB	REC	PB	REC	PB	REC
IC103	2.5	2.5	0.0	0.0	3.9	3.9

★ TR Voltage Sheet

	Emitter		Collector		Base	
	PB	REC	PB	REC	PB	REC
Q151	11.9	11.8	14.8	15.0	12.5	12.4
Q152	9.4	9.3	11.8	11.6	10.0	9.9
Q153	11.8	11.7	14.8	15.0	12.4	12.3
Q154	-27.3	-27.9	-27.3	-27.8	-26.6	-27.0
Q155	5.3	5.3	5.2	5.3	0.0	0.0
Q156	-16.1	-16.5	-16.0	-16.4	-15.4	-15.7
Q157	5.3	5.3	5.2	5.2	0.0	0.0
Q158	35.6	36.0	35.3	35.7	35.0	35.4
Q159	5.3	5.3	5.2	5.2	4.5	4.5
Q160	0.0	0.0	0.0	0.0	5.0	5.0
Q161	0.0	0.0	0.1	0.0	5.0	5.0
Q162	5.3	5.3	5.2	5.2	4.5	4.5
Q164	5.3	5.3	5.3	5.3	4.6	4.6
Q165	0.0	0.0	10.0	10.0	0.0	0.0

2. Tu/IF Circuit Diagram

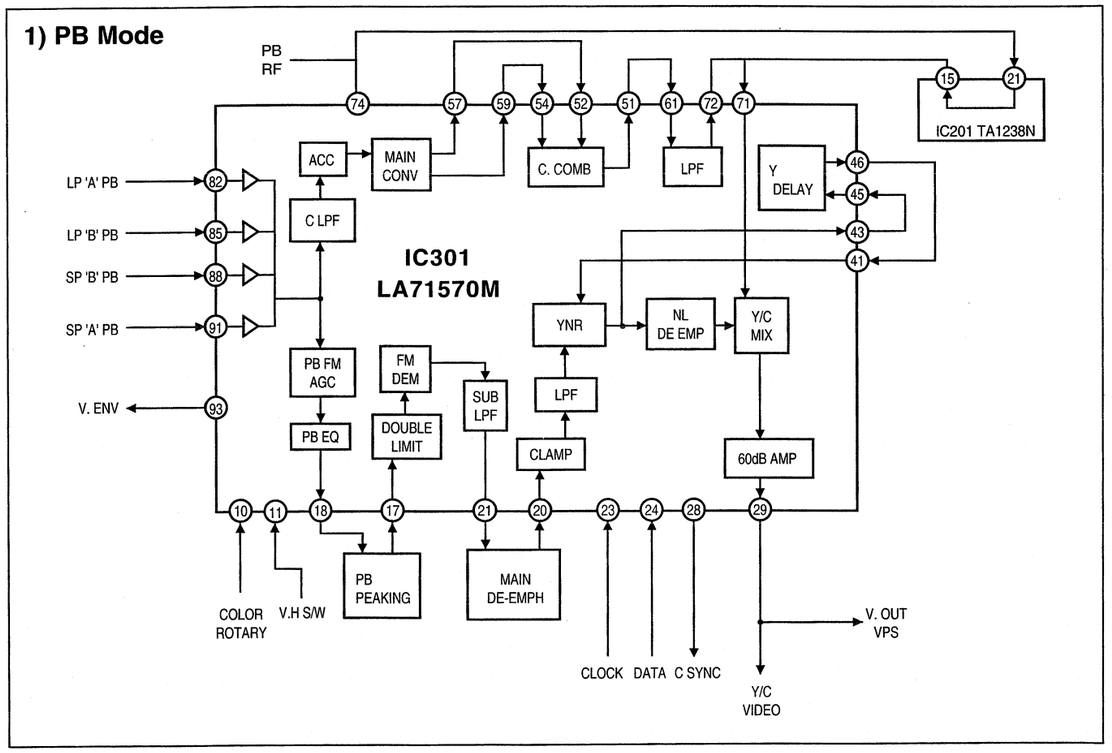


LOCATION GUIDE

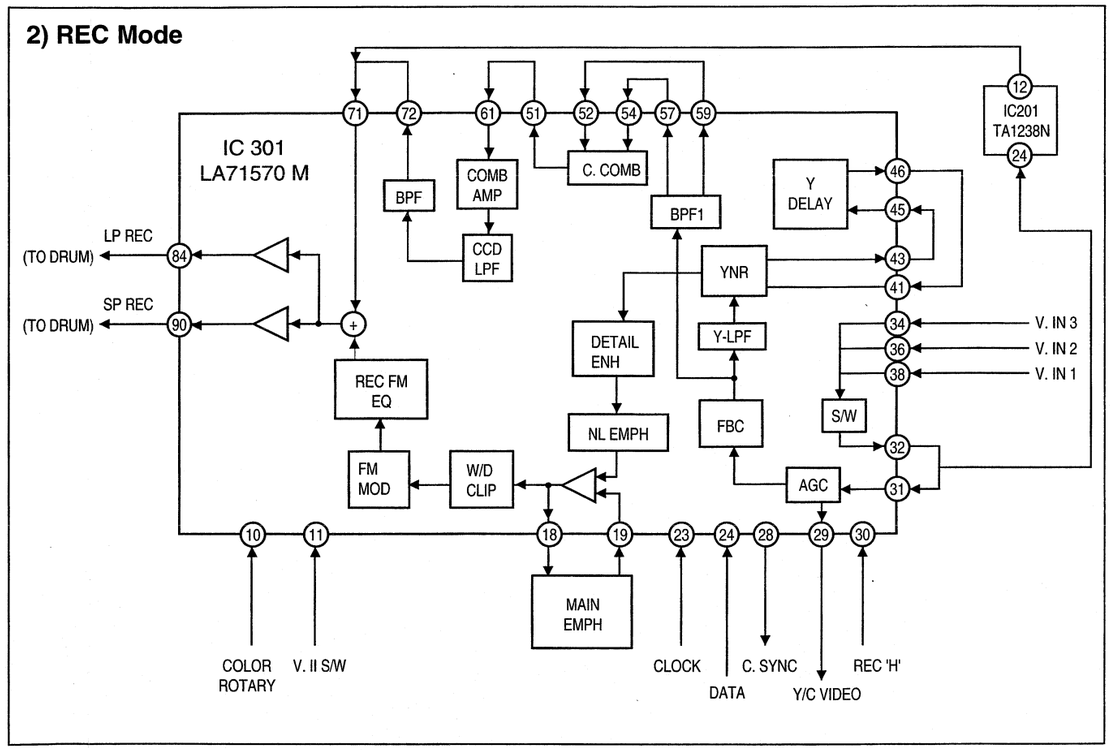
C701	H4
C702	I6
C703	J4
C704	K7
C705	K7
C706	J5
C707	K4
C710	J4
C711	J4
C712	K2
C713	I4
C714	I4
C7M1	I7
C7M2	J6
C7M3	J7
C7M4	J6
C7S1	J4
C7V1	D6
C7V2	D6
C7V3	E4
C7V4	E4
C7V5	G4
C7V6	G4
C7V7	E6
C7V8	F6
C7V9	G4
IC7V1	D5
L701	H6
L702	J7
L703	J4
L704	K2
L705	H5
L7V1	C6
PM701	B3
PM702	B4
Q701	I6
Q7S1	I4
R704	I6
R706	J5
R707	J5
R7M1	H7
R7M3	J6
R7M4	J6
R7M5	J7
R7M6	I6
R7S1	I3
R7V4	G4
R7V5	G4
R7V6	G6
R7V7	F4
R7V8	F4
TU701	K8
X7V1	E4
ZD701	H4

3. Y/C Block Diagram

1) PB Mode

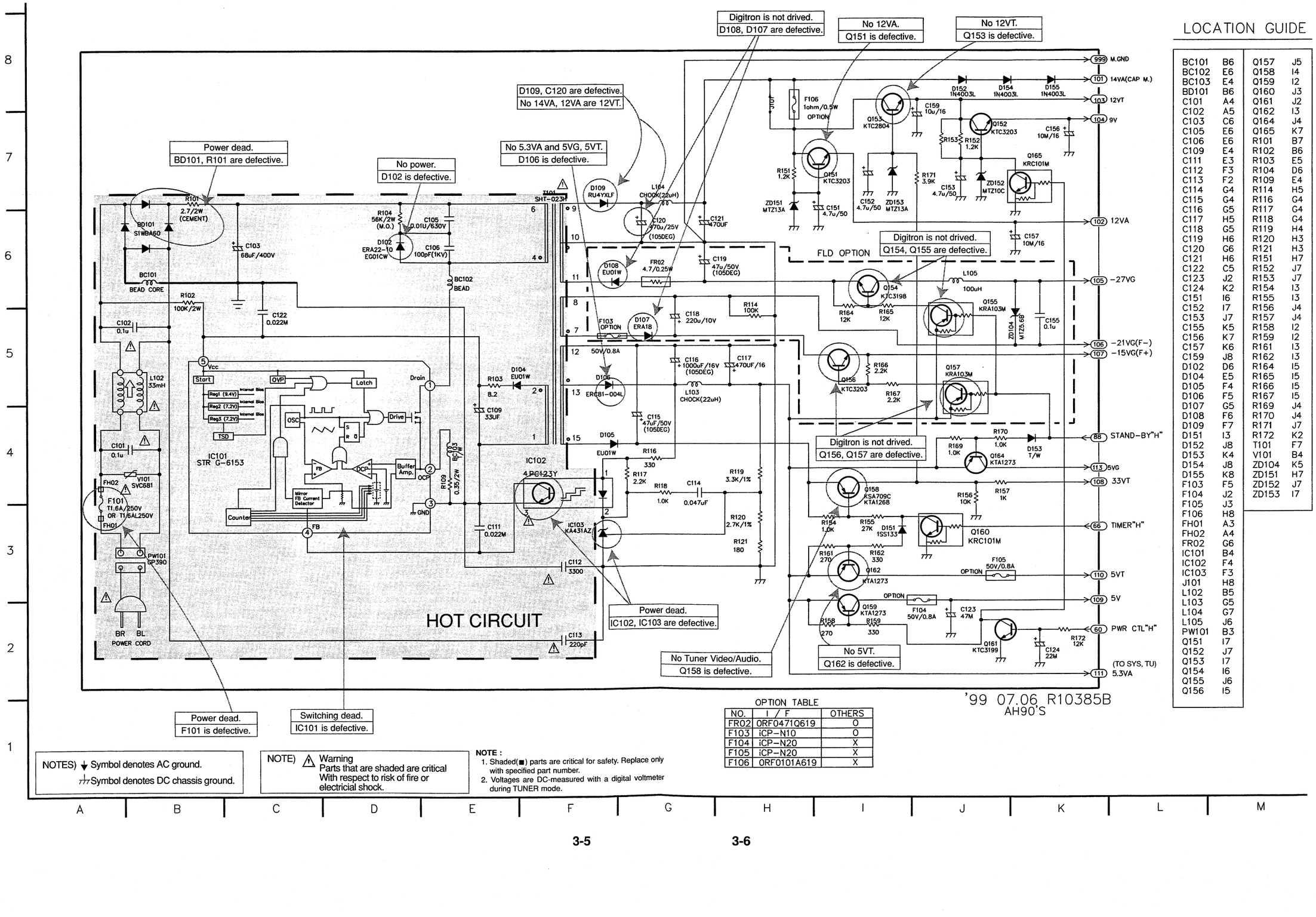


2) REC Mode



'99 02. 10 R10386BA

1. Power Circuit Diagram



LOCATION GUIDE

BC101	B6	Q157	J5
BC102	E6	Q158	I4
BC103	E4	Q159	I2
BD101	B6	Q160	J3
C101	A4	Q161	J2
C102	A5	Q162	I3
C103	C6	Q164	J4
C105	E6	Q165	K7
C106	E6	R101	B7
C109	E4	R102	B6
C111	E3	R103	E5
C112	F3	R104	D6
C113	F2	R109	E4
C114	G4	R114	H5
C115	G4	R116	G4
C116	G5	R117	G4
C117	H5	R118	G4
C118	G5	R119	H4
C119	H6	R120	H3
C120	G6	R121	H3
C121	H6	R151	H7
C122	C5	R152	J7
C123	J2	R153	J7
C124	K2	R154	I3
C151	I6	R155	I3
C152	I7	R156	J4
C153	J7	R157	J4
C155	K5	R158	I2
C156	K7	R159	I2
C157	K6	R161	I3
C159	J8	R162	I3
D102	D6	R164	I5
D104	E5	R165	I5
D105	F4	R166	I5
D106	F5	R167	I5
D107	G5	R169	J4
D108	F6	R170	J4
D109	F7	R171	J7
D151	I3	R172	K2
D152	J8	T101	F7
D153	K4	V101	B4
D154	J8	ZD104	K5
D155	K8	ZD151	H7
F103	F5	ZD152	J7
F104	J2	ZD153	I7
F105	J3		
F106	H8		
FH01	A3		
FH02	A4		
FR02	G6		
IC101	B4		
IC102	F4		
IC103	F3		
J101	H8		
L102	B5		
L103	G5		
L104	G7		
L105	J6		
PW101	B3		
Q151	I7		
Q152	J7		
Q153	I7		
Q154	I6		
Q155	J6		
Q156	I5		

NOTES) ⏚ Symbol denotes AC ground.
⏚ Symbol denotes DC chassis ground.

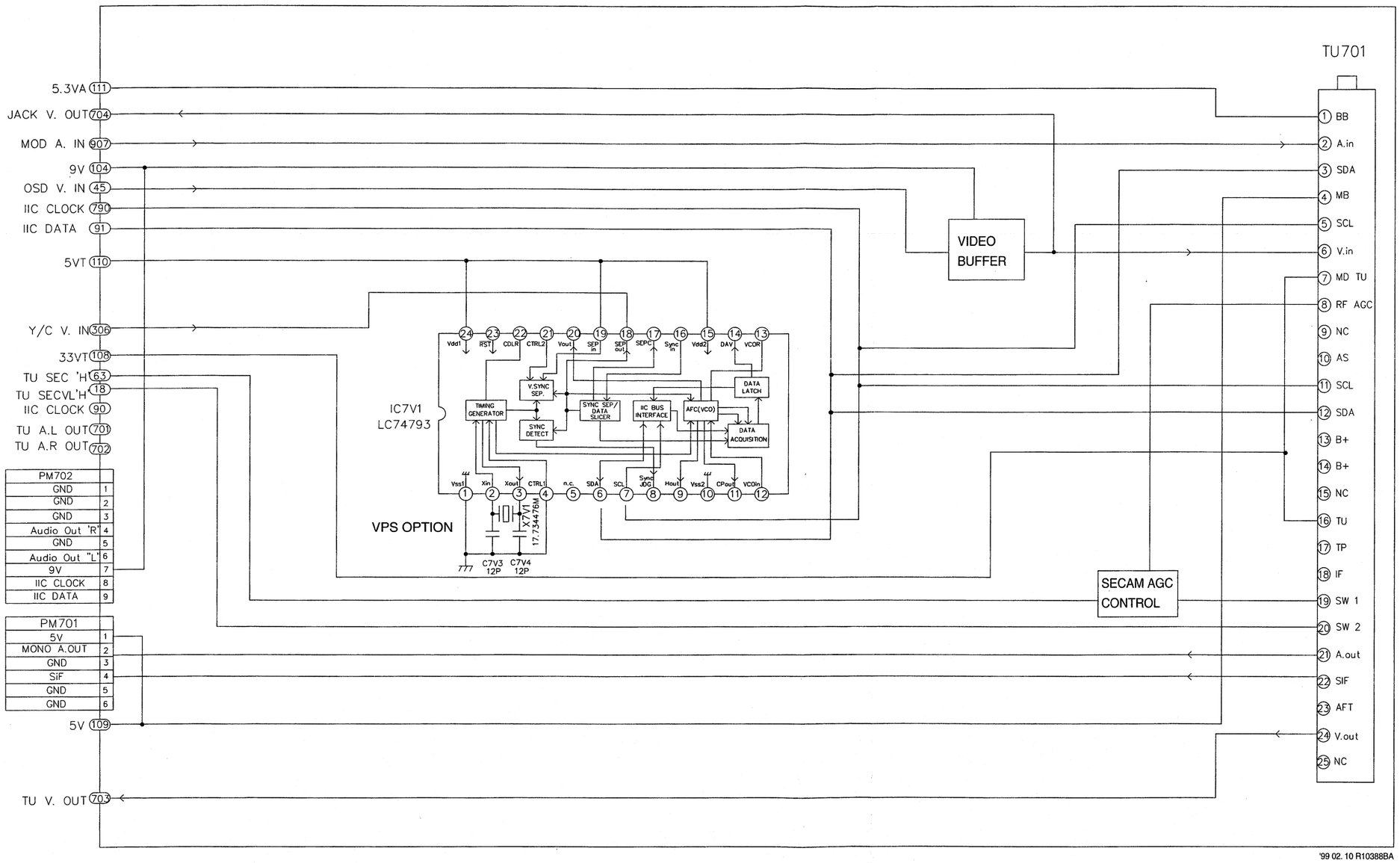
NOTE) ⚠ Warning
Parts that are shaded are critical
With respect to risk of fire or
electricial shock.

NOTE :
1. Shaded(■) parts are critical for safety. Replace only with specified part number.
2. Voltages are DC-measured with a digital voltmeter during TUNER mode.

OPTION TABLE

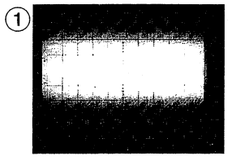
NO.	I / F	OTHERS
FR02	0RF04710619	0
F103	iCP-N10	0
F104	iCP-N20	X
F105	iCP-N20	X
F106	0RF0101A619	X

2. Tu/IF Block Diagram

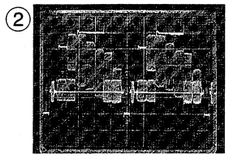


'99 02. 10 R10388BA

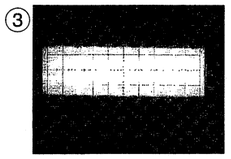
* TU/IF Oscilloscope Waveform

① 

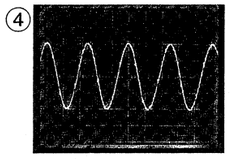
TU701 18 Pin
(IF Signal)

② 

TU701 24 Pin
(Video Signal)

③ 

TU701 22 Pin
& IC751 47 Pin
(SIF Signal)

④ 

TU701 21 Pin
(Audio signal)

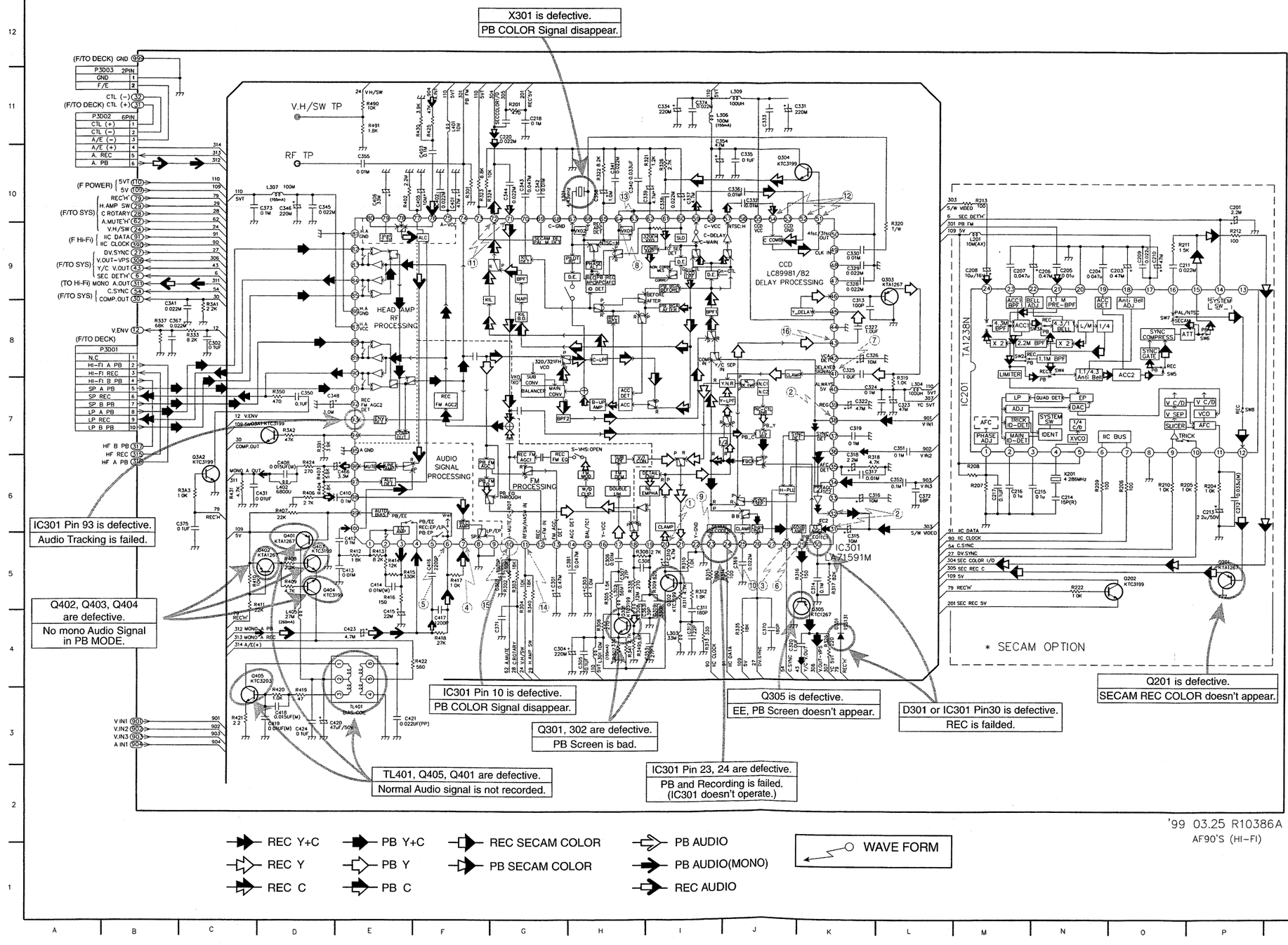
* TU701 Voltage Sheet

1	BB	5.25	13	B+	4.985
2	A.iN	0.002	14	B+	4.985
3	SEA	5.1	15	NC	0
4	MB	5.19	16	TU	32.29
5	SCL	5.2	17	TP	0
6	V.iN	0	18	IF	0
7	MD TU	32.27	19	SW1	5.0541
8	KF AGC	2.55	20	SW2	0
9	NC	0	21	A.OUT	2.38
10	AS	0.048	22	SiF	0
11	SCL	5.1	23	AFT	2.463
12	SEA	5.2	24	V.OUT	1.337
			25	NC	0

* IC7V1 Voltage Sheet

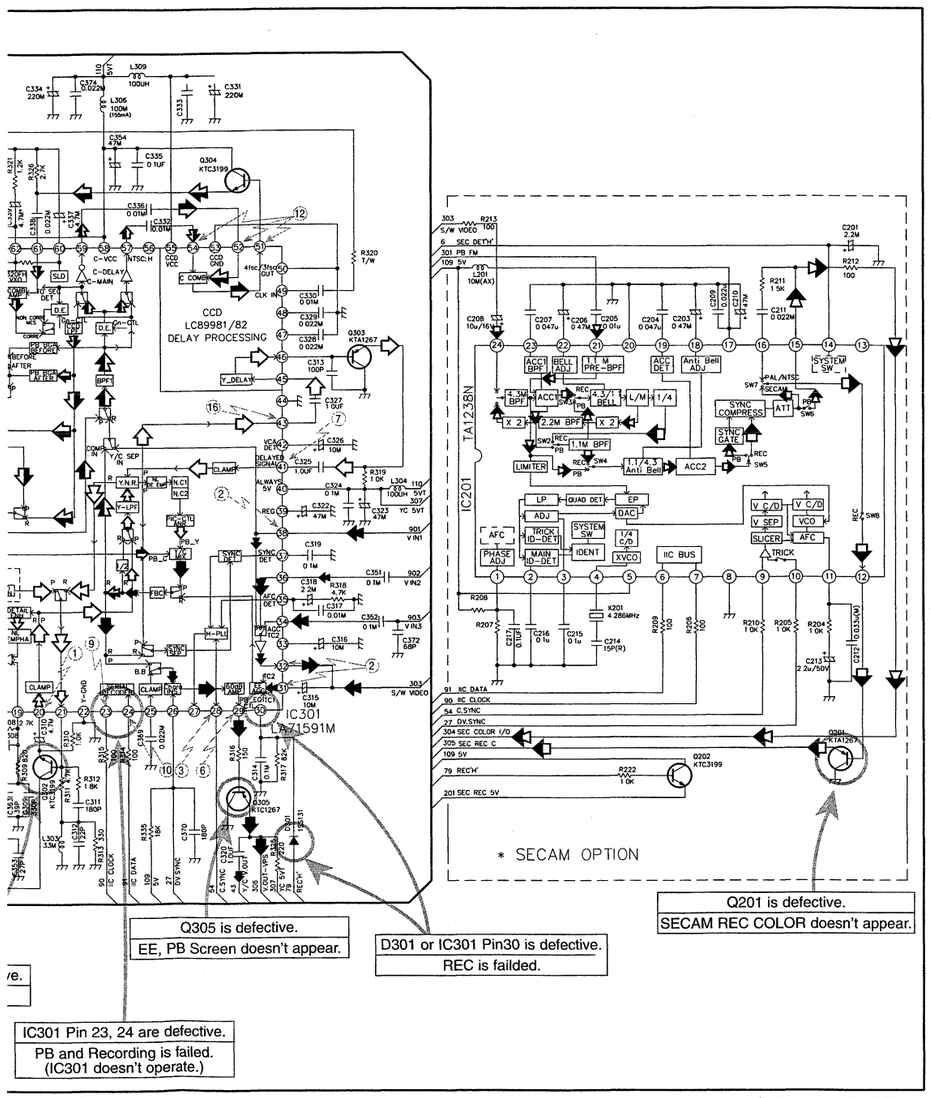
5.022	4.997	4.497	0.002	4.969	5.032	4.602	2.531	2.933	5.032	0.159	1.276												
												20									15		
IC7V1(LC74793)																							
												5									10		
0.003	2.553	2.627	0.002	0.001	5.2	5.2	5.012	4.645	0.003	2.993	2.992												

3. A/V Circuit Diagram



LOCATION GUIDE

C201	P10	C3B1	H5	R317	K5
C203	O9	C401	F10	R318	K6
C204	N9	C402	F10	R319	L7
C205	N9	C403	F10	R320	L9
C206	N9	C405	F10	R321	I10
C207	M9	C406	E10	R322	H10
C208	M9	C408	D6	R323	F10
C209	O9	C410	E6	R324	G10
C210	O9	C412	E5	R325	K4
C211	O9	C413	E5	R326	I10
C212	P6	C414	E5	R333	C8
C213	P6	C415	E4	R335	J4
C214	N6	C416	F5	R337	B8
C215	N6	C417	F4	R338	H5
C216	M6	C418	D3	R340	G4
C217	M6	C419	D3	R341	H4
C218	G11	C420	D3	R349	H4
C220	G11	C421	E3	R350	D7
C301	C5	C423	E4	R3A1	C8
C302	C8	C424	D3	R3A2	D7
C303	H5	C431	C6	R3A3	B6
C304	G4	C466	E6	R3B1	D7
C305	H4	D301	K4	R402	E10
C306	H5	IC201	M7	R403	D6
C307	H5	IC301	K5	R404	D6
C308	H5	L201	M9	R406	D6
C309	I4	L301	H4	R407	D6
C310	I5	L302	H5	R408	D5
C311	I5	L303	I4	R409	D5
C312	I4	L304	L7	R410	C5
C313	K8	L306	I11	R411	C5
C314	K5	L307	D10	R412	E5
C315	K5	L308	H4	R413	E5
C316	K6	L309	J11	R414	E5
C317	K6	L401	F11	R415	E5
C318	K6	L402	D6	R416	E5
C319	K7	L405	D4	R417	F5
C320	J4	P3D01	A8	R418	F4
C322	K7	P3D02	A11	R419	D3
C323	L7	P3D03	A11	R420	D3
C324	K7	Q201	P5	R421	C3
C325	K8	Q202	O5	R422	F4
C326	K8	Q301	H4	R424	D6
C327	K8	Q302	I5	R425	F11
C328	K9	Q303	L9	R430	F11
C329	K9	Q304	J10	R431	C6
C330	K9	Q305	K4	R490	E11
C331	J11	Q3A1	C7	R491	E11
C332	J10	Q3A2	C6	TL401	E3
C333	J11	Q401	D5	X201	N6
C334	I11	Q402	D5	X301	G10
C335	J10	Q403	D5		
C336	J10	Q404	D5		
C337	I10	Q405	C4		
C338	I10	R201	G11		
C339	I10	R204	P6		
C340	H10	R205	O6		
C341	H10	R206	O6		
C342	G10	R207	M6		
C343	G10	R208	M6		
C344	G10	R209	N6		
C345	D10	R210	O6		
C346	D10	R211	O9		
C348	D7	R212	P9		
C350	D7	R213	M10		
C351	L7	R222	N5		
C352	L6	R301	F10		
C353	I4	R302	G5		
C354	I11	R303	G5		
C355	E10	R304	G4		
C358	H10	R305	H5		
C363	H4	R306	H4		
C367	B8	R307	H4		
C368	G5	R308	H5		
C369	J5	R309	I5		
C370	J4	R310	I5		
C371	G4	R311	I5		
C372	L6	R312	I5		
C373	D10	R313	I4		
C374	I11	R314	J5		
C375	B6	R315	I5		
C3A1	B8	R316	K5		



'99 03.25 R10386A
AF90'S (HI-FI)

PB AUDIO
PB AUDIO(MONO)
REC AUDIO
WAVE FORM

I J K L M N O P Q

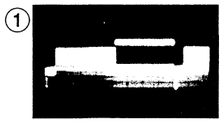
3-13 3-14

LOCATION GUIDE

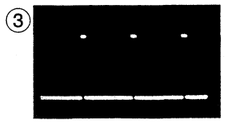
C201	P10	C3B1	H5	R317	K5
C203	O9	C401	F10	R318	K6
C204	N9	C402	F10	R319	L7
C205	N9	C403	F10	R320	L9
C206	N9	C405	F10	R321	I10
C207	M9	C406	E10	R322	H10
C208	M9	C408	D6	R323	F10
C209	O9	C410	E6	R324	G10
C210	O9	C412	E5	R325	K4
C211	O9	C413	E5	R326	I10
C212	P6	C414	E5	R333	C8
C213	P6	C415	E4	R335	J4
C214	N6	C416	F5	R337	B8
C215	N6	C417	F4	R338	H5
C216	M6	C418	D3	R340	G4
C217	M6	C419	D3	R341	H4
C218	G11	C420	D3	R349	H4
C220	G11	C421	E3	R350	D7
C301	G5	C423	E4	R3A1	C8
C302	C8	C424	D3	R3A2	D7
C303	H5	C431	C6	R3A3	B6
C304	G4	C466	E6	R3B1	D7
C305	H4	D301	K4	R402	E10
C306	H5	IC201	M7	R403	D6
C307	H5	IC301	K5	R404	D6
C308	H5	L201	M9	R406	D6
C309	I4	L301	H4	R407	D6
C310	I5	L302	H5	R408	D5
C311	I5	L303	I4	R409	D5
C312	I4	L304	L7	R410	C5
C313	K8	L306	I11	R411	C5
C314	K5	L307	D10	R412	E5
C315	K5	L308	H4	R413	E5
C316	K6	L309	J11	R414	E5
C317	K6	L401	F11	R415	E5
C318	K6	L402	D6	R416	E5
C319	K7	L405	D4	R417	F5
C320	J4	P3D01	A8	R418	F4
C322	K7	P3D02	A11	R419	D3
C323	L7	P3D03	A11	R420	D3
C324	K7	Q201	P5	R421	C3
C325	K8	Q202	O5	R422	F4
C326	K8	Q301	H4	R424	D6
C327	K8	Q302	I5	R425	F11
C328	K9	Q303	L9	R430	F11
C329	K9	Q304	J10	R431	C6
C330	K9	Q305	K4	R490	E11
C331	J11	Q3A1	C7	R491	E11
C332	J10	Q3A2	C6	TL401	E3
C333	J11	Q401	D5	X201	N6
C334	I11	Q402	D5	X301	G10
C335	J10	Q403	D5		
C336	J10	Q404	D5		
C337	I10	Q405	C4		
C338	I10	R201	G11		
C339	I10	R204	P6		
C340	H10	R205	O6		
C341	H10	R206	O6		
C342	G10	R207	M6		
C343	G10	R208	M6		
C344	G10	R209	N6		
C345	D10	R210	O6		
C346	D10	R211	O9		
C348	D7	R212	P9		
C350	D7	R213	M10		
C351	L7	R222	N5		
C352	L6	R301	F10		
C353	I4	R302	G5		
C354	I11	R303	G5		
C355	E10	R304	G4		
C358	H10	R305	H5		
C363	H4	R306	H4		
C367	B8	R307	H4		
C368	G5	R308	H5		
C369	J5	R309	I5		
C370	J4	R310	I5		
C371	G4	R311	I5		
C372	L6	R312	I5		
C373	D10	R313	I4		
C374	I11	R314	J5		
C375	B6	R315	I5		
C3A1	B8	R316	K5		

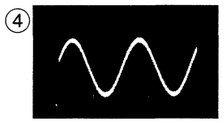
WAVEFORM & VOLTAGE SHEET

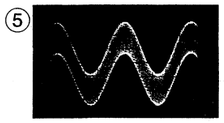
★ IC301 Oscilloscope Waveform

① 
IC301 Pin ⑳
PB mode
500mvp-p

②
IC301 Pins ㊳, ㉜, ㉛
Video in
1Vp-p

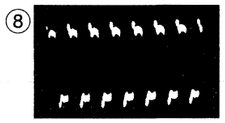
③ 
IC301 Pin ㉘
PB/REC mode
4.2Vp-p

④ 
IC301 Pin ⑦
REC mode
1.4Vp-p

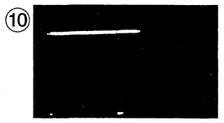
⑤ 
IC301 Pin ⑥
REC mode
2.2Vp-p

⑥
IC301 Pin ㉙
PB mode
2.1Vp-p

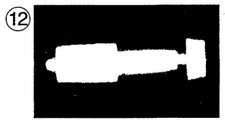
⑦
IC301 Pin ㊶
PB mode
400mVp-p

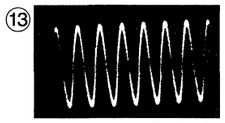
⑧ 
IC301 Pin ㊹
PB mode
600mVp-p

⑨
IC301 Pin ㉓
PB/REC mode
5Vp-p

⑩ 
IC301 Pin ㉔
PB/REC mode
5Vp-p

⑪
IC301 Pins ㊶, ㊷
REC mode
340mVp-p

⑫ 
IC301 Pins ㊶, ㊷, ㊹
PB mode
300mVp-p

⑬ 
IC301 Pin ㊸
PB mode
600mVp-p

⑭
IC301 Pin ⑪
PB mode
3.2Vp-p

⑮
IC301 Pin ⑩
PB mode
1.8Vp-p

⑯
IC301 Pin ㊸
PB mode
400mVp-p

★ IC301 Voltage Sheet

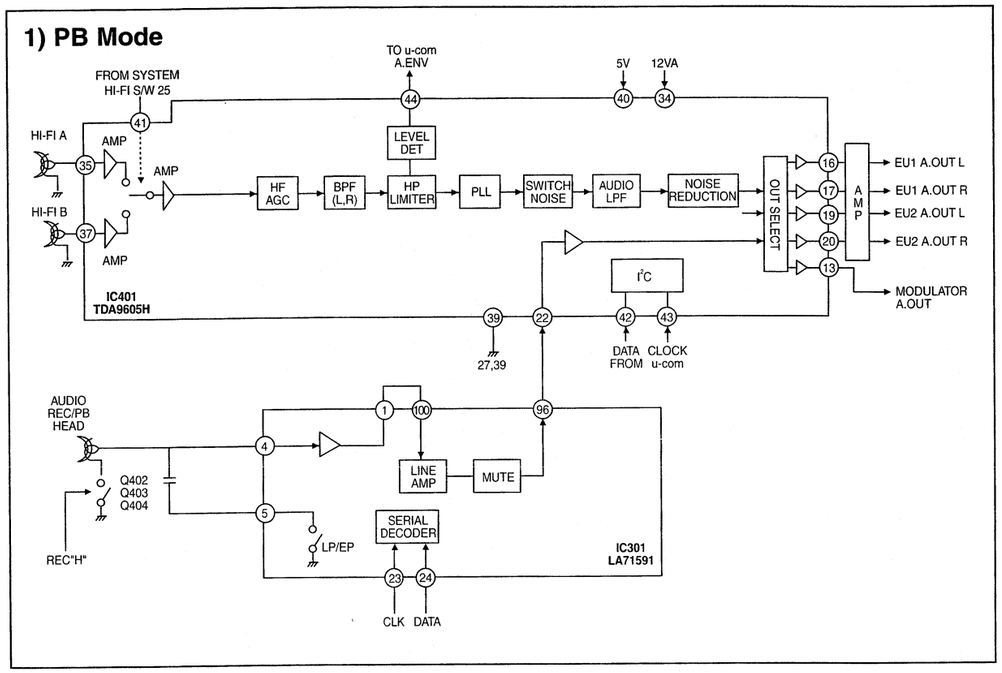
PIN	PB	REC	PIN	PB	REC	PIN	PB	REC	PIN	PB	REC	PIN	PB	REC
1	2.44	2.41	21	2.15	2.54	41	3.02	2.9	61	3.36	3.43	81	0.0	0.0
2	2.44	2.41	22	0.0	0.0	42	2.79	3.1	62	3.47	3.45	82	0.01	0.01
3	2.47	2.52	23	4.85	4.85	43	1.96	2.11	63	5.0V	5.0V	83	0.01	0.01
4	2.45	2.39	24	4.85	4.85	44	0.17	0.17	64	5.0V	5.0V	84	0.76	0.69
5	0.05	2.4	25	0.0	0.0	45	1.53	2.26	65	2.06	1.35	85	0.76	0.69
6	2.47	2.42	26	0.07	0.07	46	1.64	1.5	66	2.63	2.75	86	0.0	0.0
7	2.47	2.42	27	0.34	0.34	47	9.59	9.53	67	3.9	3.72	87	4.97	4.99
8	0.0	0.0	28	0.34	0.34	48	2.21	2.33	68	0.0	0.0	88	1.89	4.84
9	0.0	0.0	29	1.73	1.94	49	0.88	0.89	69	0.63	0.6	89	0.0	0.0
10	0.97	0.97	30	1.09	4.35	50	0.0	0.0	70	1.98	2.83	90	1.89	0.0
11	1.7	1.7	31	2.88	2.88	51	1.94	1.9	71	2.5	2.43	91	1.89	4.84
12	5.05	2.69	32	1.5	2.27	52	2.59	2.59	72	3.26	3.02	92	0.21	0.23
13	1.5	1.42	33	1.87	1.31	53	0.0	0.0	73	3.4	3.36	93	4.23	0.02
14	1.9	1.53	34	1.82	3.31	54	2.62	2.58	74	1.8	0.01	94	0.01	0.25
15	2.3	2.31	35	1.26	3.36	55	5.07	5.01	75	4.99	4.95	95	0.0	0.0
16	5.07	5.02	36	1.82	3.31	56	0.22	0.53	76	2.44	2.44	96	2.26	2.26
17	3.03	0.17	37	1.61	4.73	57	3.38	3.43	77	0.01	0.01	97	0.0	0.0
18	1.87	2.47	38	2.14	2.24	58	5.01	4.98	78	2.44	2.44	98	2.44	1.62
19	1.12	2.47	39	4.05	4.06	59	3.3	3.36	79	2.47	2.44	99	4.97	4.11
20	2.98	3.04	40	5.08	5.02	60	3.46	3.43	80	2.38	1.92	100	2.44	3.26

★ TR Voltage Sheet

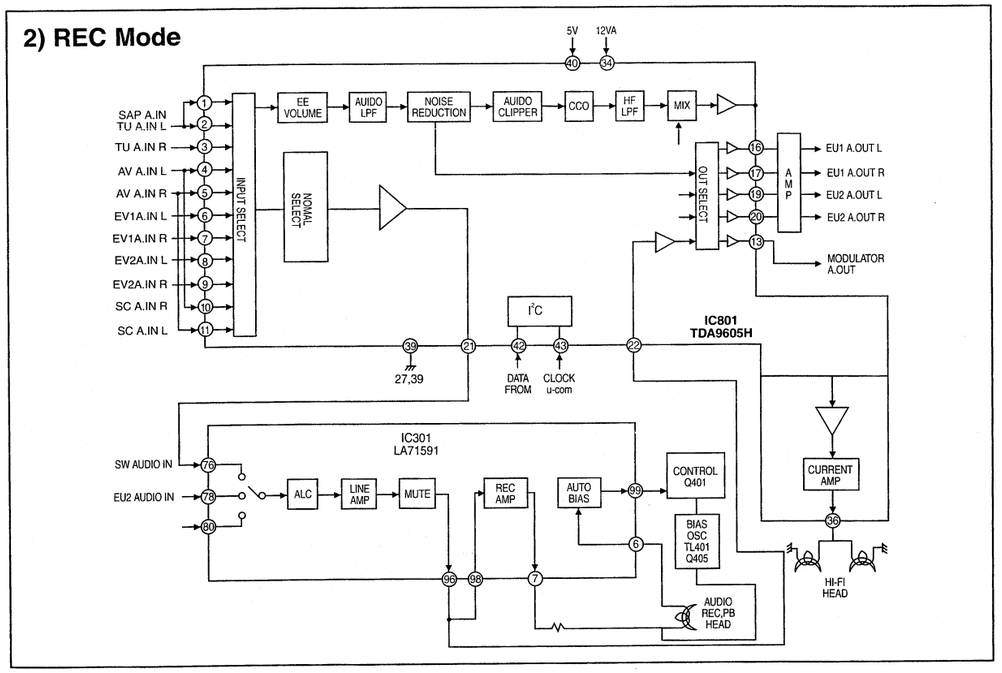
	PB mode			REC mode		
	E	C	B	E	C	B
Q301	1.18	4.32	1.8	1.71	3.75	2.34
Q302	1.3	5.09	1.9	1.89	5.09	2.51
Q303	2.62	0.0	2.05	2.17	0.0	1.53
Q304	1.36	5.08	1.93	1.34	5.02	1.9
Q305	2.43	0.0	1.75	2.53	0.0	0.55

4. Hi-Fi Block Diagram

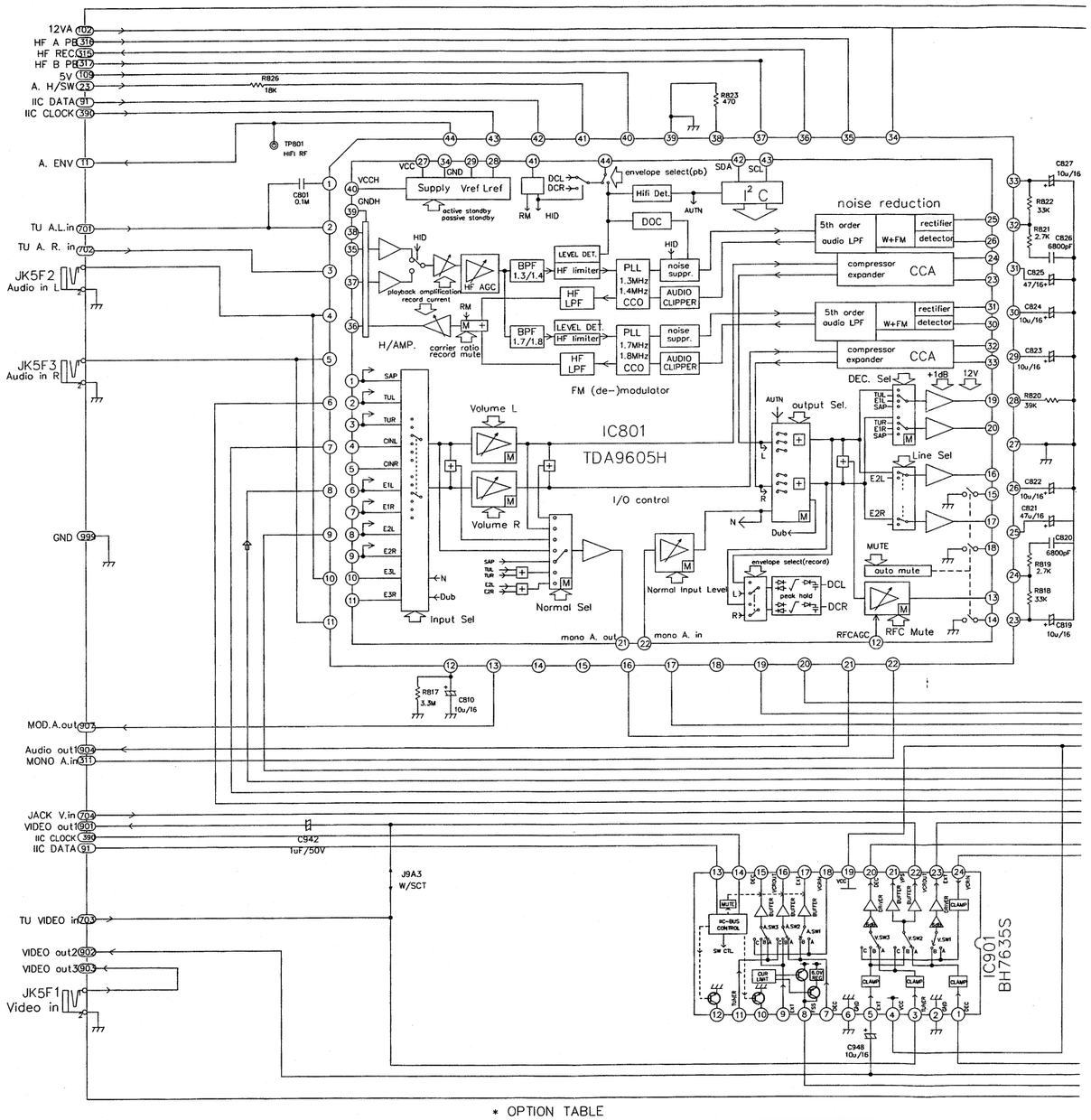
1) PB Mode



2) REC Mode



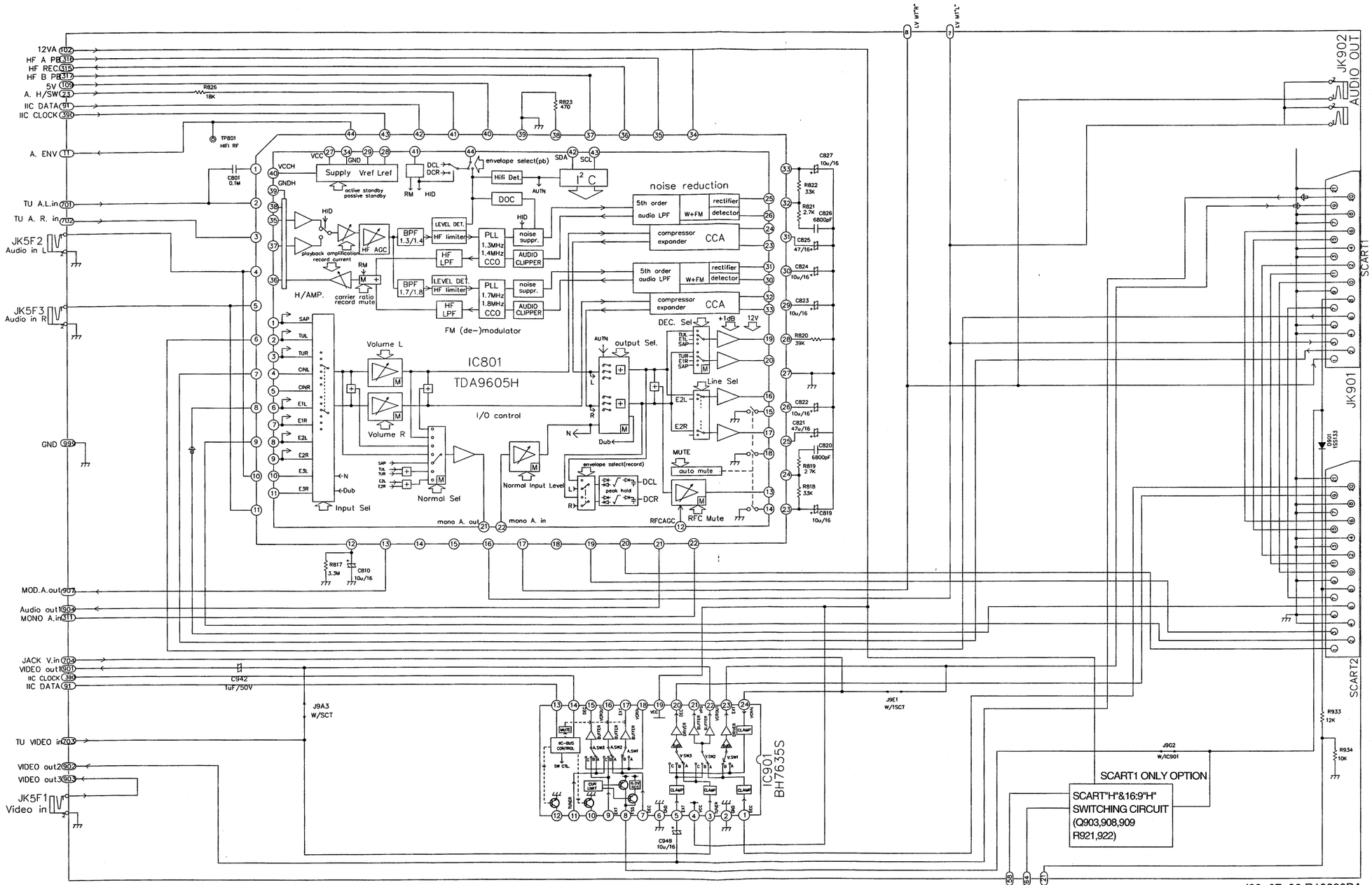
4. Hi-Fi, SCART Block Diagram



* OPTION TABLE

	HIFI/C+	HIFI/2SCART	HIFI/1SCART	MONO/C+	MONO/2SCART	MONO/1SCART	MONO/RCA
V.out1	SW V.in	SW V.in	TUNER V.in	SW V.in	TUNER V.in	TUNER V.in	------
V.out2	/	/	E1 V.in	/	E1 V.in	E1 V.in	REAR V.in
V.out3	FRONT V.in	FRONT V.in	FRONT V.in	FRONT V.in	E2 V.in	(FRONT V.in)	------
A.out1	MONO A.out	MONO A.out	MONO A.out	SW A.in	TUNER A.in	TUNER A.in	------
A.out2	/	/	/	/	E1 A.in	E1 A.in	REAR A.in
A.out3	/	/	/	FRONT A.in	E2 A.in	(FRONT A.in)	------

Hi-Fi, SCART Block Diagram



* OPTION TABLE

	HIFI/C+	HIFI/2SCART	HIFI/1SCART	MONO/C+	MONO/2SCART	MONO/1SCART	MOND/RCA
V.out1	SW V.in	SW V.in	TUNER V.in	SW V.in	TUNER V.in	TUNER V.in	-----
V.out2	/	/	E1 V.in	/	E1 V.in	E1 V.in	REAR V.in
V.out3	FRONT V.in	FRONT V.in	FRONT V.in	FRONT V.in	E2 V.in	(FRONT V.in)	-----
A.out1	MONO A.out	MONO A.out	MONO A.out	SW A.in	TUNER A.in	TUNER A.in	-----
A.out2	/	/	/	/	E1 A.in	E1 A.in	REAR A.in
A.out3	/	/	/	FRONT A.in	E2 A.in	(FRONT A.in)	-----

'99 07. 06 R10390BA
AF/AC9'S

3-17 3-18

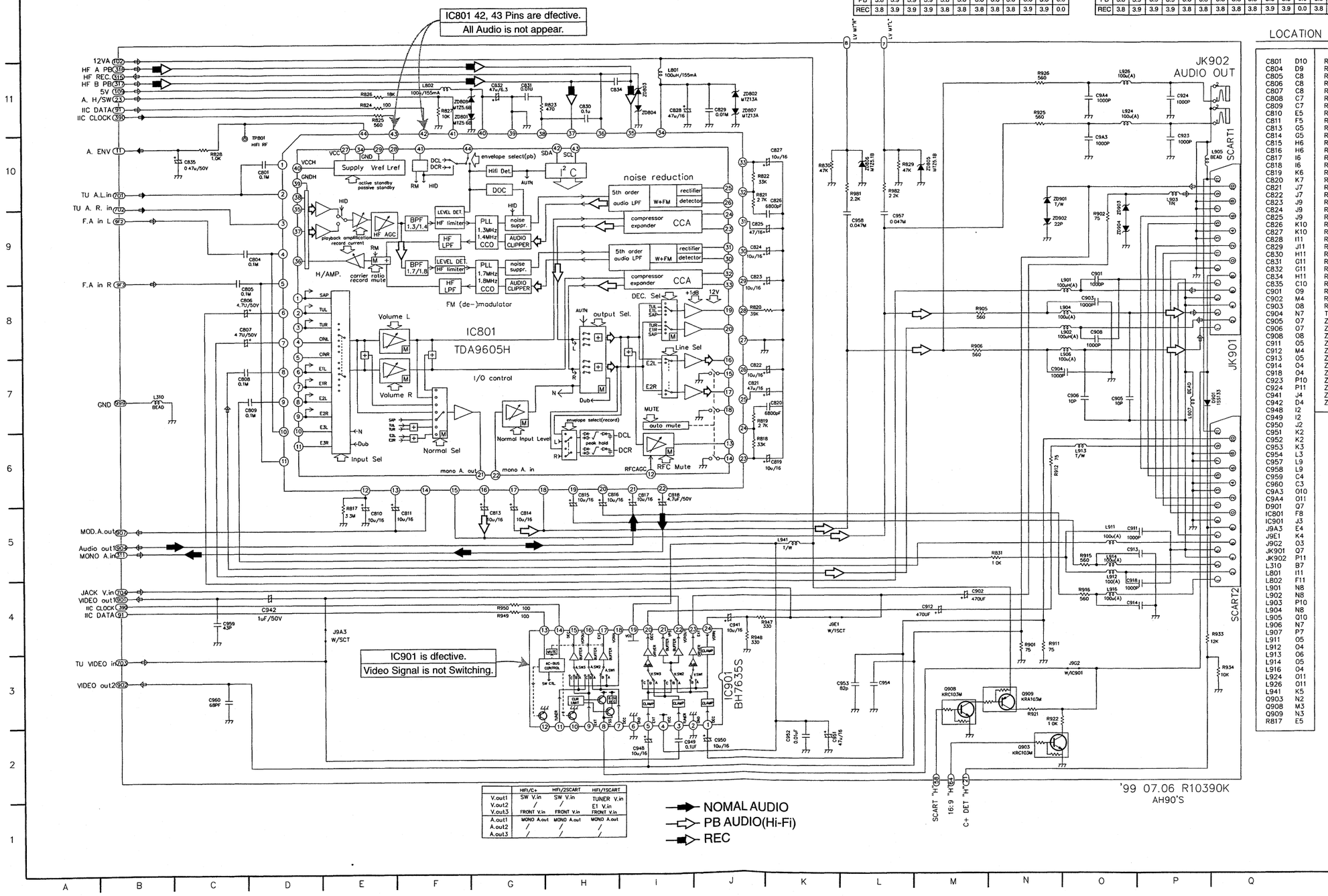
4. Hi-Fi, SCART Circuit Diagram

*** IC901 Voltage Sheet**

PB	3.6	4.4	4.2	0.9	5.1	0.0	0.0	0.7	0.6	0.7	11.9	3.9	
REC	1.9	4.4	4.1	0.9	5.0	0.0	4.2	4.3	4.2	4.3	12.0	3.9	
					20					15			IC901(BH7635S)
PB	3.8	3.9	3.9	3.9	3.8	3.8	3.8	3.8	3.8	3.8	3.8	0.0	
REC	3.8	3.9	3.9	3.9	3.8	3.8	3.8	3.8	3.8	3.9	3.9	0.0	
					5					10			

*** IC801 Voltage Sheet**

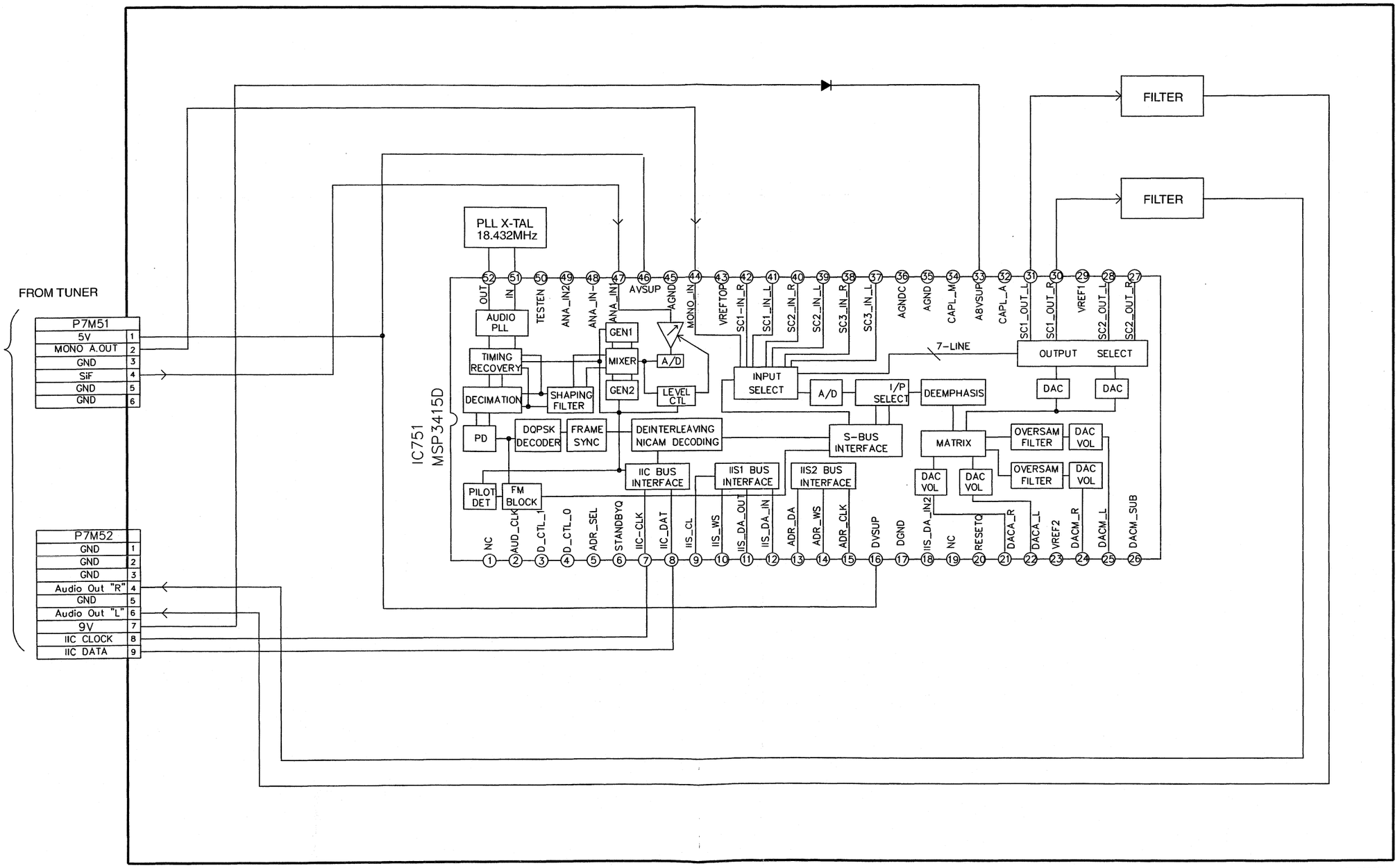
PB	3.6	4.4	4.2	0.9	5.1	0.0	0.0	0.7	0.6	0.7	11.9	3.9	3.9	3.9	0.8	3.9	3.9	0.0	0.8	3.9	3.9	3.9
REC	1.9	4.4	4.1	0.9	5.0	0.0	4.2	4.3	4.2	4.3	12.0	3.9	3.9	3.9	0.8	3.9	3.9	0.0	0.8	3.9	3.9	3.9
					40					35					30					25		IC801(TDA9605H)
PB	3.8	3.9	3.9	3.9	3.8	3.8	3.8	3.8	3.8	3.8	3.8	0.0	3.9	0.0	0.0	6.0	6.0	0.0	6.0	6.0	4.5	3.8
REC	3.8	3.9	3.9	3.9	3.8	3.8	3.8	3.8	3.8	3.9	3.9	0.0	3.8	0.0	0.0	6.0	6.0	0.0	6.0	6.1	4.6	3.8
					5					10					15					20		



	HIFI/C+	HIFI/2SCART	HIFI/1SCART
V.out1	SW V.in	SW V.in	TUNER V.in
V.out2	/	/	E1 V.in
V.out3	FRONT V.in	FRONT V.in	FRONT V.in
A.out1	MONO A.out	MONO A.out	MONO A.out
A.out2	/	/	/
A.out3	/	/	/

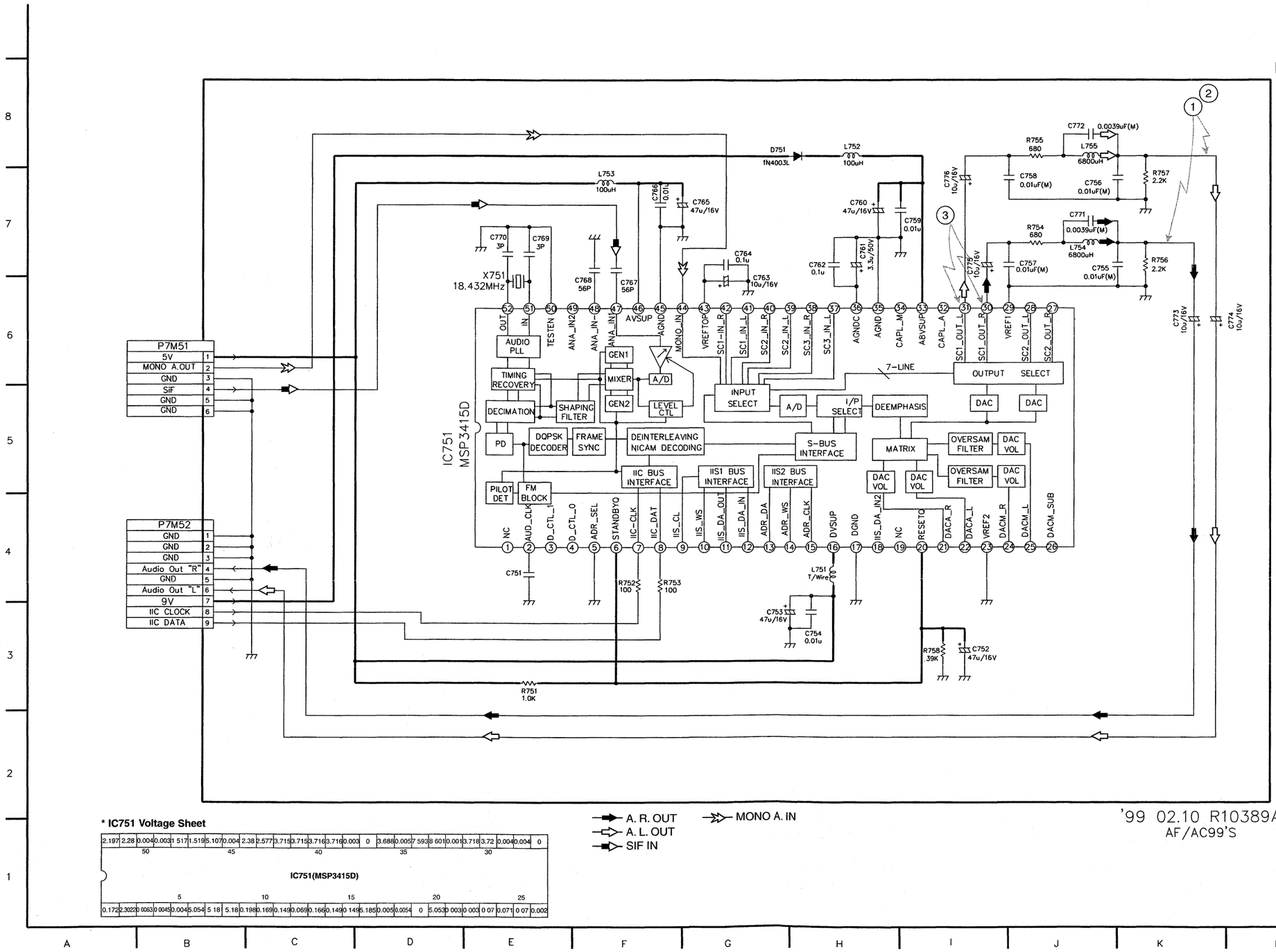
C801	D10	R818	J6	C953	K3
C804	D9	R819	J7	C954	L3
C805	C8	R820	J8	C957	L9
C806	C8	R821	J10	C958	L9
C807	C8	R822	J10	C959	C4
C808	C7	R823	H11	C960	C3
C809	C7	R824	E11	C9A3	O10
C810	E5	R825	E11	C9A4	O11
C811	F5	R826	E11	D901	O7
C813	G5	R827	F11	IC801	F8
C814	G5	R828	C10	IC901	J3
C815	H6	R829	L10	J9A3	E4
C816	H6	R830	K10	J9E1	K4
C817	I6	R831	N5	J9G2	O3
C818	I6	R901	N4	JK901	Q7
C819	K6	R902	O9	JK902	P11
C820	K7	R905	M8	L310	B7
C821	J7	R906	M8	L801	I11
C822	J7	R911	N4	L802	F11
C823	J9	R912	N6	L901	N8
C824	J9	R915	O5	L902	N8
C825	J9	R916	O4	L903	P10
C826	K10	R921	N3	L904	N8
C827	K10	R922	N3	L905	Q10
C828	I11	R925	N11	L906	N7
C829	J11	R926	N11	L907	P7
C830	H11	R933	Q4	L911	O5
C831	G11	R934	Q3	L912	O4
C832	G11	R947	J4	L913	O6
C834	H11	R948	J4	L914	O5
C835	C10	R949	G4	L916	O4
C901	O9	R950	G4	L924	O11
C902	M4	R981	L10	L926	O11
C903	O8	R982	L10	L941	K5
C904	N7	TP801	D10	Q903	N2
C905	O7	ZD801	F11	Q908	M3
C906	O7	ZD802	J11	Q909	N3
C908	O8	ZD803	I11	R817	E5
C911	O5	ZD804	I11		
C912	M4	ZD805	M10		
C913	O5	ZD806	L10		
C914	O4	ZD807	J11		
C918	O4	ZD808	F11		
C923	P10	ZD901	N10		
C924	P11	ZD902	N9		
C941	J4	ZD903	O9		
C942	D4	ZD904	O9		
C948	I2				
C949	I2				
C950	J2				
C951	K2				
C952	K2				

5. NICAM, A2 Block Diagram



'99 02. 10 R10389BA

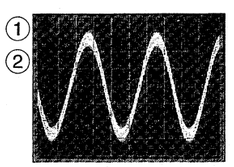
5. NICAM, A2 Circuit Diagram



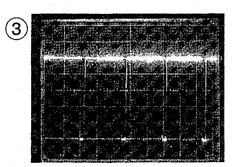
LOCATION GUIDE

C751	E4
C752	I3
C753	G3
C754	H3
C755	J7
C756	J7
C757	J7
C758	J7
C759	I7
C760	H7
C761	H7
C762	H7
C763	G6
C764	G7
C765	G7
C766	F7
C767	F6
C768	F6
C769	E7
C770	E7
C771	J7
C772	J8
C773	K6
C774	L6
C775	I7
C776	I7
D751	G8
IC751	D5
L751	H4
L752	H8
L753	F7
L754	J7
L755	J8
P7M51	B6
P7M52	B4
R751	E3
R752	F4
R753	F4
R754	J7
R755	J8
R756	K7
R757	K7
R758	I3
X751	E6

*** NICAM Oscilloscope Waveform**



IC751 Pin (IF Signal)



IC751 Pin 30, 31

*** IC751 Voltage Sheet**

2.197	2.28	0.004	0.003	1.517	1.519	5.107	0.004	2.38	2.577	3.715	3.715	3.716	3.716	0.003	0	3.688	0.005	7.593	8.601	0.001	3.718	3.72	0.004	0.004	0
50							45						40						35				30		

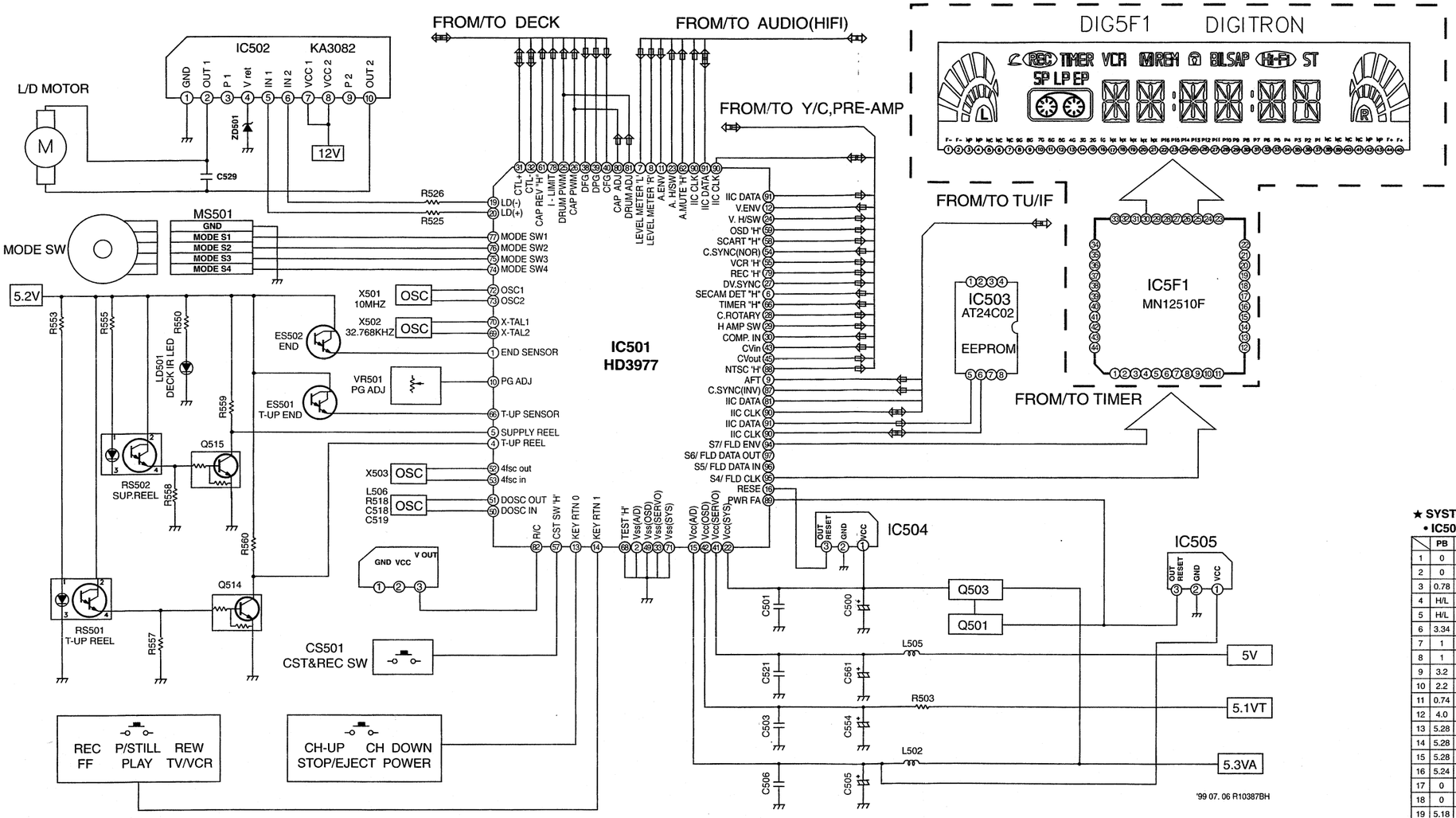
IC751(MSP3415D)

0.172	2.302	0.006	3	0.004	5	0.054	5.18	5.18	0.198	0.169	0.149	0.069	0.166	0.149	0	149	5.185	0.005	0.005	4	0	5.053	0.003	0.003	0.07	0.071	0.07	0.002
5							10						15						20					25	

A. R. OUT
A. L. OUT
SIF IN
MONO A. IN

'99 02.10 R10389A
AF/AC99'S

6. System Block Diagram



★ IC502 Voltage Sheet

PB	0.4	0.8	12.19	12.19	2.16
REC	0.4	0.8	12.19	12.19	2.16

10 IC502 1 5

PB	0	0.4	0.8	0.28	2.16
REC	0	0.4	0.8	0.28	2.16

★ IC503 Voltage Sheet

PB	5.34	0.00	4.60	4.60
REC	5.34	0.00	5.21	5.21

5 IC503 1

PB	0.00	0.00	0.00	0.00
REC	0.00	0.00	0.00	0.00

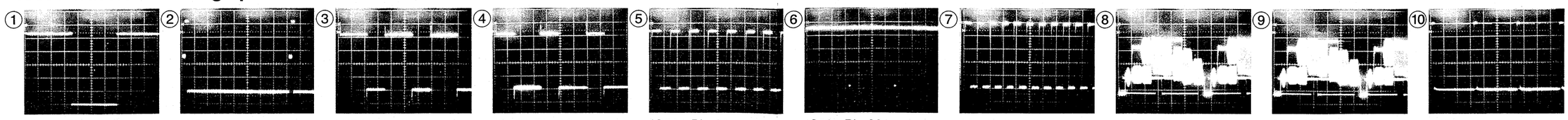
★ System IC Voltage Sheet

	Emitter		Collector		Base	
	PB	REC	PB	REC	PB	REC
Q514	0	0	H/L	H/L	H/L	H/L
Q515	0	0	H/L	H/L	H/L	H/L
Q506	0	0	0.7	0.7	0.4	0.4
Q503	5.32	5.32	5.25	5.24	4.43	4.43
Q501	0	0	0	0	0.75	0.75

★ SYSTEM IC Voltage Sheet
• IC501(HD3977)

	PB	REC		PB	REC		PB	REC		PB	REC		PB	REC
1	0	0	21	5.24	5.24	41	5.24	5.24	61	0	0	81	2.55	2.55
2	0	0	22	5.24	5.24	42	4.99	4.99	62	0	0	82	5.07	5.07
3	0.78	0.79	23	H/L	H/L	43	2.41	2.37	63	0	0	83	0	0
4	H/L	H/L	24	H/L	H/L	44	1.36	1.36	64	5.21	5.21	84	0	0
5	H/L	H/L	25	2.81	2.81	45	2.43	2.43	65	5.21	5.21	85	0	0
6	3.34	3.3	26	2.73	2.73	46	0	0	66	0	0	86	0	0
7	1	2	27	0	0	47	2.01	2.01	67	4.58	4.58	87	4.7	4.7
8	1	2	28	H/L	H/L	48	1.41	1.41	68	0	0	88	0	0
9	3.2	1.62	29	5.15	5.15	49	0	0	69	1.45	1.45	89	4.87	4.87
10	2.2	2.2	30	4.97	4.88	50	1.32	1.32	70	0.83	0.83	90	5.08	5.08
11	0.74	0	31	2.25	2.99	51	1.35	1.35	71	0	0	91	5.03	5.03
12	4.0	2.3	32	2.25	2.2	52	2.5	2.5	72	2.49	2.47	92	5.28	5.28
13	5.28	5.28	33	0	0	53	2.43	2.43	73	2.47	2.47	93	5.28	5.28
14	5.28	5.28	34	0	0	54	0.38	0.38	74	5.29	5.29	94	4.6	4.6
15	5.28	5.28	35	2.25	2.25	55	5.21	5.21	75	0	0	95	5.2	5.2
16	5.24	5.28	36	2.25	2.25	56	0	0	76	5.29	5.29	96	0	0
17	0	0	37	2.25	2.25	57	5.05	5.05	77	2.29	5.29	97	0	0
18	0	0	38	Pulse	Pulse	58	5.16	5.20	78	3.14	3.15	98	0	0
19	5.18	5.18	39	Pulse	Pulse	59	0	0	79	0	4.84	99	0	0
20	5.18	5.18	40	Pulse	Pulse	60	5.21	5.14	80	2.8	2.8	100	0	0

* IC501 Waveform Photographs



① IC501 Pin 14
1V/5mS
REC/PB modes
(V.H/SW)

② IC501 Pin 27
1V/2mS
QUE/REV modes
(D.V-SYNC)

③ IC501 Pin 31
1V/10mS
REC mode
(CTL+)

④ IC501 Pin 32
1V/10mS
REC mode
(CTL-)

⑤ IC501 Pin 38
1V/1mS
REC/PB mode
(DFG)

⑥ IC501 Pin 39
1V/10uS
REC/PB modes
(DPG)

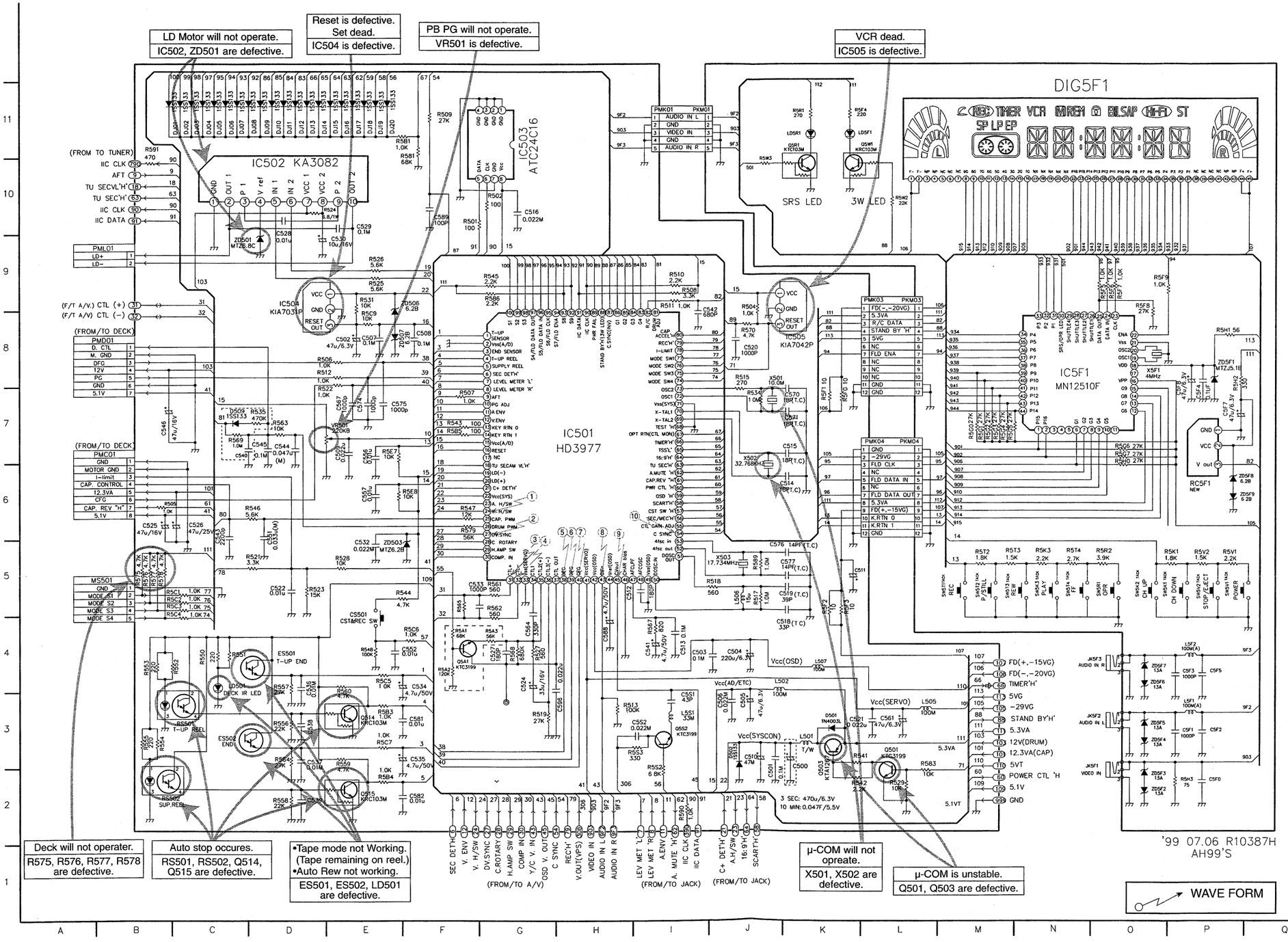
⑦ IC501 Pin 40
1V/1mS
REC/PB modes
(CFG)

⑧ IC501 Pin 43
100mV/10uS
EE/PB modes
(V-IN)

⑨ IC501 Pin 45
500MV/10uS
EE/PB modes
(V-OUT)

⑩ IC501 Pin 54
1V/20uS
EE/PB modes
(C-SYNC)

6. System Circuit Diagram

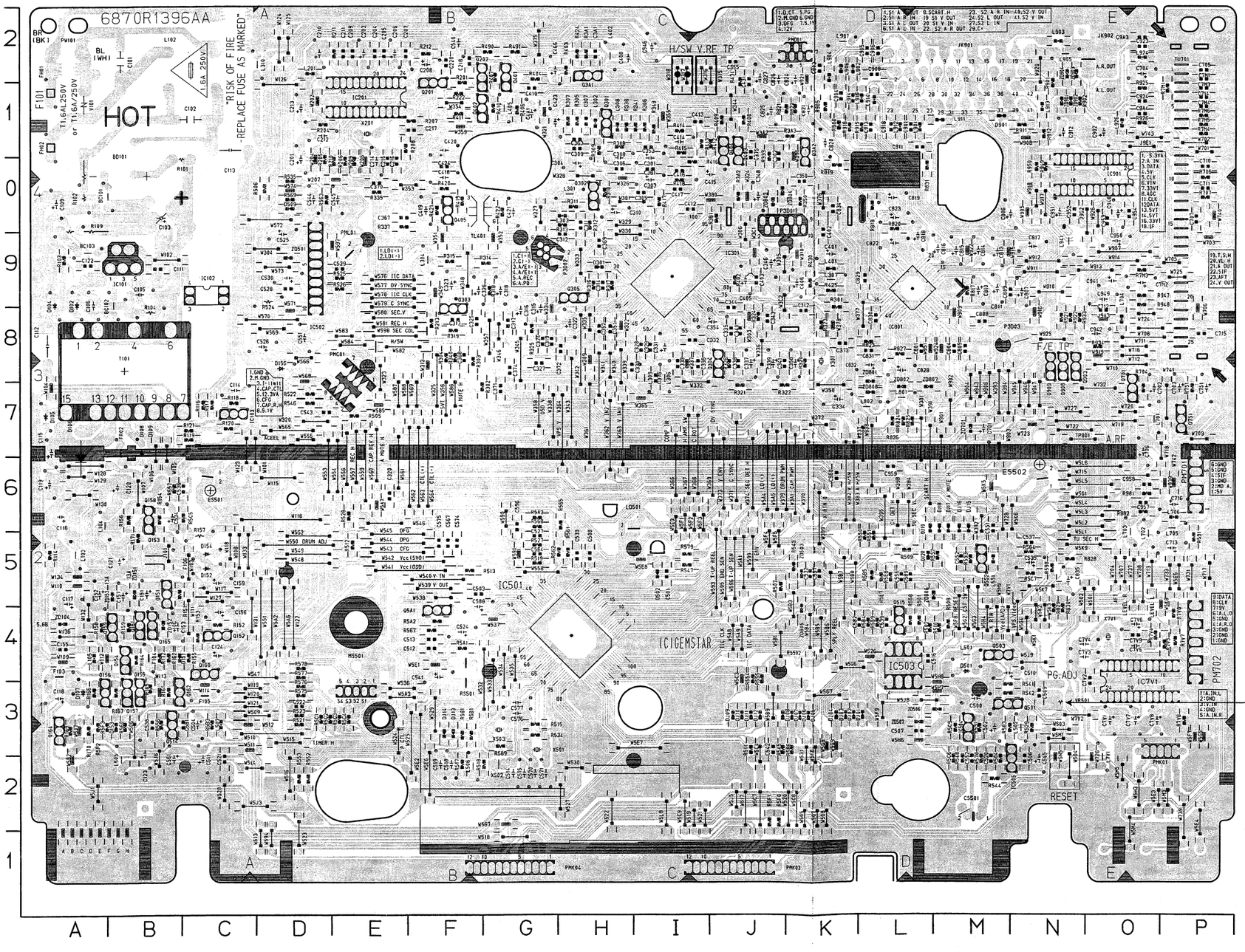


LOCATION GUIDE

C500	K3	ES501	D4	R576	B5
C501	J2	ES502	C3	R577	B5
C502	E8	IC501	H7	R578	B5
C503	I4	IC502	D10	R579	F6
C504	J4	IC503	G11	R581	E11
C505	J3	IC504	D9	R583	L3
C506	J3	IC505	K8	R586	G9
C507	E8	IC5F1	N8	R589	J5
C508	F8	JK5F1	N3	R590	I2
C509	E7	JK5F2	N3	R591	B11
C510	J3	JK5F3	N4	R5A1	F4
C511	K5	L501	K3	R5A2	F4
C512	H5	L502	J4	R5A3	G4
C513	I4	L505	L3	R5B1	E11
C514	J6	L506	J5	R5B3	E3
C515	K7	L507	K4	R5B4	E2
C516	G10	L5F1	P3	R5B5	F7
C518	J4	L5F2	P4	R5C1	B5
C519	J5	L5S1	I3	R5C2	B5
C520	J8	LD501	C4	R5C3	B5
C521	K3	LD5F1	K11	R5C4	B5
C522	D5	LD5R1	K11	R5C5	E4
C524	G4	MS501	A5	R5C6	F4
C525	B6	PKM01	I11	R5C7	E3
C526	C6	PKM03	L9	R5C9	E8
C527	G4	PKM04	L7	R5E7	E7
C528	D10	PMC01	A7	R5E8	F6
C529	E10	PMD01	A8	R5F0	K7
C530	E9	PMK01	I11	R5F1	K7
C532	E5	PMK03	L9	R5F2	K5
C533	F5	PMK04	L7	R5F3	K5
C534	F4	PML01	A9	R5F4	K11
C535	F3	Q501	L3	R5F5	O9
C536	D3	Q503	K2	R5F6	O9
C537	D3	Q514	E3	R5F7	O9
C538	D3	Q515	E2	R5F8	O9
C539	D2	Q5A1	F4	R5F9	O9
C540	C7	Q5R1	K11	R5G0	M7
C541	I4	Q5S2	I3	R5G1	M7
C542	I9	Q5W1	K11	R5G2	M7
C543	C5	R501	F10	R5G3	M7
C544	D7	R502	G10	R5G4	M7
C545	D7	R504	J9	R5G5	M7
C546	B7	R505	B6	R5G6	O7
C551	B8	R506	B8	R5G7	O7
C552	E4	R507	F7	R5H0	O7
C556	E7	R508	I9	R5H1	P8
C557	E6	R509	F11	R5H2	P7
C561	L3	R510	I9	R5H3	P2
C564	G4	R511	I9	R5K1	O5
C567	E7	R512	D8	R5K3	N5
C570	K7	R513	H3	R5R1	K11
C571	K7	R515	J8	R5R2	O5
C574	E7	R517	J5	R5S2	I3
C575	E7	R518	I5	R5S3	H3
C576	J5	R519	G3	R5T2	M5
C577	J5	R521	C5	R5T3	M5
C581	F3	R522	D7	R5T4	N5
C582	F2	R523	D5	R5V1	P5
C588	H4	R524	D10	R5V2	P5
C589	F10	R525	E9	R5W2	L10
C596	H3	R526	E9	R5W3	J10
C5F0	P2	R527	C4	RC5F1	P6
C5F1	P3	R528	E5	RS501	C3
C5F2	P3	R529	L2	RS502	B2
C5F3	P4	R531	E9	SW5K1	O5
C5F4	P7	R534	J7	SW5K2	O5
C5F5	P4	R535	D7	SW5K3	N5
C5F7	P7	R541	K3	SW5R1	O5
C5F8	P7	R542	K2	SW5T1	M5
C5S1	I3	R543	F7	SW5T2	M5
C5S2	H3	R544	E5	SW5T3	M5
CS501	E5	R545	G9	SW5T4	N5
D501	K3	R546	C6	SW5V1	P5
D502	J3	R547	F6	SW5V2	P5
D509	C7	R548	E4	VR501	E7
DIG5F1	N11	R550	C4	X501	J8
DJ01	C11	R551	C4	X502	J7
DJ02	C11	R552	C4	X503	J5
DJ03	C11	R553	B4	X5F1	O8
DJ04	C11	R554	B3	ZD501	C9
DJ05	C11	R555	B3	ZD503	E5
DJ06	C11	R556	D3	ZD506	E9
DJ07	C11	R557	D4	ZD507	F8
DJ08	D11	R558	D2	ZD5F1	P8
DJ09	D11	R559	E3	ZD5F2	O2
DJ10	D11	R560	E4	ZD5F3	O2
DJ11	D11	R561	G5	ZD5F4	O3
DJ12	D11	R562	G5	ZD5F5	O3
DJ13	D11	R563	D7	ZD5F6	O4
DJ14	E11	R564	D3	ZD5F7	O4
DJ15	E11	R565	F5	ZD5F8	P6
DJ16	E11	R567	I4	ZD5F9	P6
DJ17	E11	R568	G4		
DJ18	E11	R569	C7		
DJ19	E11	R570	J8		
DJ20	E11	R575	B5		

PRINTED CIRCUIT BOARD DIAGRAMS

1. MAIN P.C.Board



LOCATION GUIDE

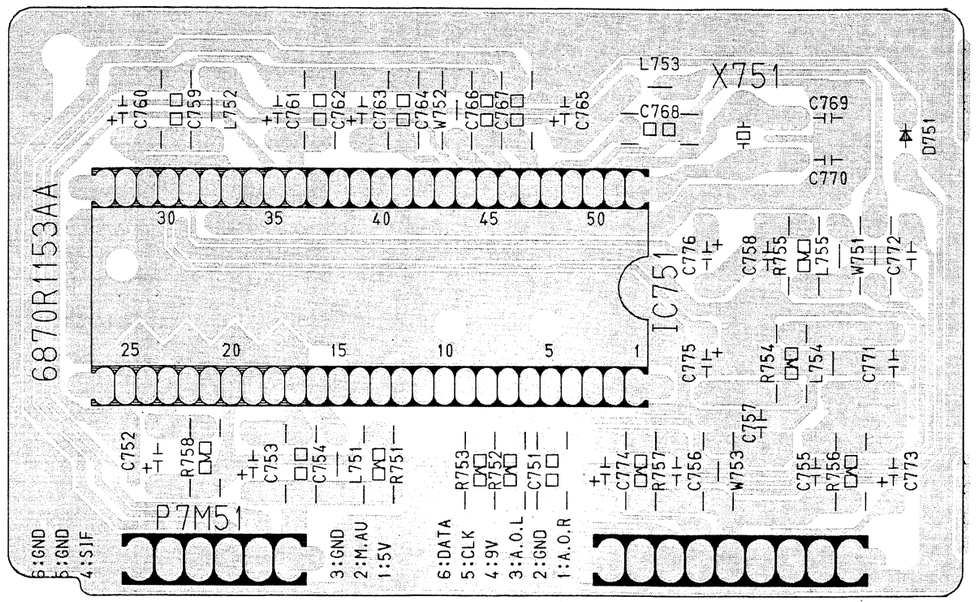
BC101	B10	C335	J8	C530	D9	C822	L9	F103	A4	PML01	E9	R213	F8	R521	D3	R751	P7
BC102	B9	C336	I8	C532	K5	C823	L10	F104	B4	PW101	A12	R222	F11	R522	D7	R7V4	O4
BC103	A9	C337	J8	C533	H5	C824	K12	F105	C3	Q151	B5	R301	K8	R523	D3	R7V5	P4
BD101	B10	C338	J8	C534	B6	C825	J11	F106	B5	Q152	C4	R302	F7	R524	D9	R7V6	P3
C101	B12	C339	J8	C535	N5	C826	J12	FH01	A11	Q153	B5	R303	F8	R525	E9	R7V7	P4
C102	C11	C340	J8	C536	C6	C827	J12	FH02	A11	Q154	B4	R304	F8	R526	E9	R7V8	P4
C103	B10	C341	J8	C537	N5	C828	L8	FR02	B7	Q155	B3	R305	H11	R527	C5	R817	M9
C105	B9	C342	K8	C538	B3	C829	L9	IC101	B9	Q156	A3	R306	I11	R528	E6	R818	L10
C106	A9	C343	J8	C539	L4	C830	L8	IC102	C9	Q157	B3	R307	H11	R529	M3	R819	K10
C109	A10	C344	J8	C540	F12	C831	L8	IC103	C7	Q158	B6	R308	H11	R531	M5	R820	L10
C111	B9	C345	J9	C541	F4	C832	L8	IC201	E11	Q159	B4	R309	H11	R534	G3	R821	K11
C112	A8	C348	J10	C542	J3	C834	K10	IC502	D10	Q160	C4	R310	H10	R535	D10	R822	K11
C113	C11	C350	K10	C543	D7	C835	N5	IC503	L3	Q161	B4	R311	H10	R541	M3	R823	L8
C114	A7	C351	H8	C544	D10	C901	L11	IC504	M3	Q162	B3	R312	H10	R542	M3	R824	L7
C115	A7	C352	H8	C545	E10	C902	O11	IC505	N2	Q164	A3	R313	H10	R543	K5	R825	L7
C116	A6	C353	I11	C546	I12	C903	K12	IC7V1	O4	Q165	B4	R314	G9	R544	M2	R826	L7
C117	A5	C354	J8	C551	D8	C904	K11	IC901	O10	Q201	F11	R315	F9	R545	J3	R827	L8
C118	A3	C355	J12	C552	M2	C905	L12	J101	B5	Q202	F12	R316	H9	R546	D7	R828	N5
C119	A6	C358	K8	C556	L5	C906	L12	J9A3	O8	Q301	H11	R317	H9	R547	I5	R829	N4
C120	B6	C363	H11	C557	K5	C908	L12	J9E1	O11	Q302	H10	R318	G9	R548	M2	R830	N4
C121	B5	C367	E10	C561	B2	C911	L11	J9G2	O10	Q303	F8	R319	F8	R550	L5	R831	L10
C122	A9	C368	F8	C564	G5	C912	N11	JK901	M12	Q304	J8	R320	K8	R551	L5	R901	N11
C123	B3	C369	H9	C567	F5	C913	L11	JK902	O12	Q305	H9	R321	J7	R552	D2	R902	N11
C124	C4	C370	E10	C570	G2	C914	K11	L102	C12	Q3A1	H12	R322	J7	R553	D2	R905	K11
C151	B5	C371	G7	C571	G2	C918	L11	L103	A5	Q3A2	K11	R323	K8	R554	J4	R906	K11
C152	A4	C372	K8	C574	F5	C923	L11	L104	A6	Q401	G12	R324	J8	R555	J4	R911	N11
C153	B4	C373	K8	C575	F5	C924	O11	L105	A4	Q402	F11	R325	G8	R556	B3	R912	N11
C155	A4	C374	G6	C576	G3	C941	O9	L201	D12	Q403	J11	R326	J8	R557	B6	R915	L11
C156	A4	C375	I11	C577	G3	C942	O8	L202	D11	Q404	J11	R333	J11	R558	L5	R916	K11
C157	B5	C376	I8	C581	C3	C948	O10	L302	H11	Q405	F10	R335	E10	R560	B3	R922	N8
C159	C5	C3A1	H12	C582	L4	C949	O9	L303	H10	Q501	M3	R337	E10	R560	B3	R922	N8
C201	D10	C3B1	H12	C588	L4	C950	O9	L304	F9	Q503	M6	R338	H11	R561	H5	R925	O11
C203	E12	C401	K9	C589	L5	C951	N10	L306	I8	Q514	B3	R340	F8	R562	H5	R926	O11
C204	E12	C402	K9	C596	G6	C952	N10	L307	K3	Q515	L4	R341	I11	R563	D10	R933	N8
C205	E12	C403	J9	C597	G6	C953	O10	L308	H11	Q541	F4	R343	I11	R564	H5	R934	O8
C206	E12	C405	J9	C552	M5	C954	O10	L309	I8	Q552	M5	R350	K10	R565	H6	R947	O9
C207	E12	C406	K9	C701	M7	C957	O6	L310	D12	Q701	D7	R3A1	H12	R567	F4	R948	O9
C208	E12	C408	K9	C702	P7	C958	O6	L401	K9	Q751	P7	R3A2	J10	R568	G6	R949	N10
C209	E12	C410	G11	C703	P7	C959	L6	L402	H12	Q903	N8	R3A3	K11	R569	D10	R950	N10
C210	D12	C412	I10	C704	O12	C960	K6	L405	G11	Q908	N8	R3B1	J10	R570	M2	R981	O6
C211	E12	C413	I11	C705	P12	C9A3	O12	L501	M4	Q909	N8	R3B2	J9	R575	D3	R982	O6
C212	D11	C414	I11	C706	O7	C9A4	O11	L502	N3	R101	B10	R403	H12	R576	D3	R5501	F4
C213	D11	C415	J10	C707	P10	C5501	M2	L505	B2	R102	A10	R404	G12	R577	D4	R5502	K4
C214	E10	C416	I10	C710	P10	D102	A9	L506	F2	R103	A9	R406	G11	R578	D4	T101	B8
C215	E10	C417	I10	C711	P10	D104	A9	L507	C3	R104	B8	R407	G12	R579	I5	TL401	F10
C216	E10	C418	F10	C712	O8	D105	A7	L551	M5	R109	A10	R408	J11	R581	F3	TP801	N7
C217	F11	C419	F10	C713	P5	D106	A6	L701	O7	R110	A5	R409	J11	R583	M3	TU701	P12
C218	F12	C420	I11	C714	P11	D107	A7	L702	O5	R116	C7	R410	I11	R586	K3	V101	A11
C220	F12	C421	G10	C715	P8	D108	B7	L703	O5	R117	C7	R411	F11	R589	G3	VR501	N3
C301	I10	C423	G11	C716	P6	D109	B7	L704	O8	R118	C7	R412	J11	R590	N5	X201	E11
C302	I10	C424	I10	C717	P6	D151	P12	L705	P6	R119	C7	R413	I11	R591	P5	X301	K8
C303	I10	C431	J12	C7M2	O9	D152	C5	L706	P6	R120	C7	R414	I11	R5A1	F4	X501	G3
C304	H10	C466	G12	C7M3	P11	D153	B3	L7V1	O2	R121	C7	R415	I11	R5A2	F4	X502	G2
C305	I10	C481	G11	C7M4	P11	D154	C5	L801	L7	R151	B5	R416	I10	R5A3	G6	X503	G3
C306	H10	C500	M3	C751	P7	D155	D8	L802	L7	R152	C4	R417	I10	R5B1	F3	X7V1	O4
C307	H11	C501	I5	C7V1	O3	D301	H9	L901	L11	R153	C4	R418	I10	R5B3	C3	ZD104	A4
C308	H10	C502	M3	C7V2	O3	D501	M4	L902	K12	R154	C5	R419	F10	R5B4	L4	ZD151	B5
C309	H11	C503	F5	C7V3	N4	D502	I5	L903	N12	R155	C4	R429	F10	R5B5	L5	ZD152	B4
C310	H10	C504	C3	C7V4	N4	D509	D10	L904	K12	R156	B6	R421	F10	R5C1	D3	ZD153	B5
C311	H10	C505	N2	C7V5	O4	D901	M11	L905	N12	R157	C5	R422	G10	R5C2	D3	ZD501	D9
C312	H9	C506	N2	C7V6	O4	DJ01	L3	L906	K12	R158	A4	R424	H12	R5C3	E3	ZD503	K5
C313	F8	C507	L3	C7V7	O3	DJ02	K3	L907	K12	R159	B4	R425	K9	R5C4	E3	ZD506	M3
C314	H9	C508	N5	C7V8	O3	DJ03	K3	L911	M11	R161	B3	R430	K9	R5C5	G6	ZD507	L3
C315	G8	C509	N3	C7V9	O4	DJ04	K3	L912	L11	R162	B4	R431	J12	R5D5	M2	ZD701	M7
C316	G8	C510	M4	C801	L8	DJ05	K3	L913	N11	R164	B4	R490	G12	R5C7	N5	ZD801	L7
C317	G8	C511	C2	C804	M8	DJ06	K3	L914	L11	R165	B3	R491	G12	R5C9	M3	ZD802	L7
C318	G9	C512	F4	C805	M8	DJ07	K3	L916	L11	R166	A3	R501	L4	R5E7	L5	ZD803	J10
C319	G8	C513	F4	C806	M10	DJ08	J3	L924	O12	R167	B3	R502	L4	R5E8	L5	ZD804	J10
C320	E6	C514	G2	C807	N9	DJ09	J3	L926	O11	R169	A3	R504	M2	R5F0	J2	ZD805	K4
C322	H8	C515	G2	C808	M8	DJ10	J3	L941	N9	R170	A3	R505	E7	R5F1	J2	ZD806	L5
C323	F9	C516	L4	C809	M9	DJ11	J3	LD501	M5	R171	B5	R506	D10	R5F2	A3	ZD807	L7
C324	G8	C518	F2	C810	M9	DJ12	J3	MS501	E4	R172	B4	R507	J5	R5F3	A3	ZD808	L7
C325	F8	C519	F2	C811	M9	DJ13	F3	P3D01	J10	R201	F11	R508	M4	R552	M5	ZD901	N11
C326	F9	C520	M2	C813	M9	DJ14	F3	P3D02	G9	R204	D11	R509	L5	R553	M5	ZD902	N11
C327	G8	C521	C2	C814	M9	DJ15	M6	P3D03	N8	R205	D10	R510	M4	R704	O7	ZD903	N12
C328	I8	C522	D3	C815	M9	DJ16	M6	PM701	P6	R206	E10	R511	J3	R706	P10	ZD904	N12
C329	I8	C524	F4	C816	M9	DJ17	M6	PM702	P4	R207	F11	R512	E5	R707	P10		
C330	H8	C525	D9	C817	N9	DJ18	M6	PM801	E7	R208	E11	R513	E5	R7M1	P11		
C331	I8	C526	D8	C818	L9	DJ19	L6	PM804	J12	R209	E10	R515	G3	R7M3	O9		
C332	I8	C527	G5	C819	L10	DJ20	L5	PMK01	P3	R210	E10	R517	F2	R7M4	P11		
C333	I8	C528	D9	C820	K11	ES501	C6	PMK03	J1	R211	E12	R518	G2	R7M5	P11		
C334	K7	C529	E9	C821	K11	ES502	N7	PMK04	G1	R212	F12	R519	G5	R7M6	P11		

ABBREVIATIONS

ADJ : Adjustment
PG : Pulse Generator

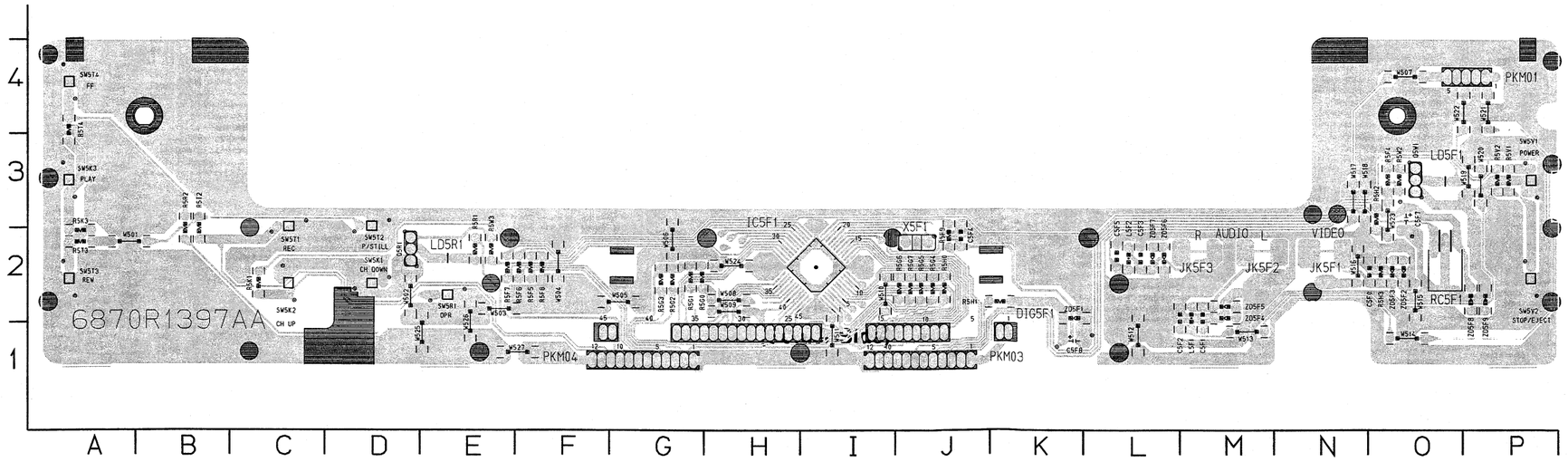
NOTE : ● Measurement Point
□ : Adjustment Point
Emitter : TRANSISTOR
Collector
Base

2. NICAM & A2 P.C.Board



(Solder Side)

3. Timer P.C.Board



3-31 3-32

LOCATION GUIDE

C5F0	O2	R5H0	J2
C5F1	M2	R5H1	K2
C5F2	M2	R5H2	O3
C5F3	L2	R5H3	O2
C5F4	J2	R5K1	C2
C5F5	L2	R5K3	A2
C5F7	O3	R5R1	E2
C5F8	K1	R5R2	B2
DIG5F1	K1	R5T2	B2
JK5F1	N2	R5T3	A2
JK5F2	M2	R5T4	A4
JK5F3	M2	R5V1	P3
L5F1	M2	R5V2	P3
L5F2	L2	R5W2	O3
LD5F1	O3	R5W3	E2
LD5R1	E2	RC5F1	O2
PKM01	P4	SW5K1	D2
PKM03	J1	SW5K2	C2
PKM04	G1	SW5K3	A3
Q5R1	D2	SW5R1	E2
Q5W1	O3	SW5T1	C3
R5F4	O3	SW5T2	D3
R5F5	F2	SW5T3	A2
R5F6	F2	SW5T4	A4
R5F7	E2	SW5V1	P3
R5F8	F2	SW5V2	P2
R5F9	J2	X5F1	J2
R5G0	G2	ZD5F1	K2
R5G1	G2	ZD5F2	O2
R5G2	G2	ZD5F3	O2
R5G3	G2	ZD5F4	M2
R5G4	J2	ZD5F5	M2
R5G5	J2	ZD5F6	L2
R5G6	J2	ZD5F7	L2
R5G7	J2	ZD5F8	P2
		ZD5F9	P2

MEMO

MEMO

SECTION 4 MECHANISM

CONTENTS

DECK MECHANISM PARTS LOCATIONS

- **Top View** **4-1**
- **Bottom View** **4-1**

DECK MECHANISM DISASSEMBLY

1. Drum Assembly 4-2
2. Plate Assembly Top 4-3
3. Holder Assembly CST 4-3
4. Guide CST 4-3
5. Bracket Side(L)/Bracket Assembly Door 4-3
6. Arm Assembly F/L 4-3
7. Lever Assembly S/W 4-3
8. Arm Assembly Cleaner 4-5
9. Head F/E 4-5
10. Base Assembly A/C Head 4-5
11. Brake Assembly S 4-6
12. Brake Assembly T 4-6
13. Arm Assembly Tension 4-6
14. Reel S/Reel T 4-6
15. Support CST 4-7
16. Base Assembly P4 4-7
17. Opener Lid 4-7
18. Arm Assembly T/up 4-7
19. Arm Assembly Pinch 4-7
20. Belt Capstan/Motor Capstan 4-8
21. Clutch Assembly D33 4-8
22. Lever F/R 4-8
23. Gear Assembly H-up/D 4-8
24. Bracket Assembly Jog 4-9
25. Guide Rack F/L, Gear Rack F/L 4-9
26. Brake Assembly Capstan 4-9
27. Gear Drive/Gear Cam/Gear Connector 4-10
28. Bracket Assembly L/D Motor 4-10
29. Gear Sector 4-11
30. Base Tension/Plate Slider/Lever Tension 4-11
31. Gear Assembly P3/Gear Assembly P2 4-12
32. Base Assembly P3/Base Assembly P2 4-12
33. Arm Assembly Idler Jog 4-12

DECK MECHANISM ADJUSTMENT

- **Tools and Fixtures for Service** **4-13**
1. Mechanism and Mode Switch Alignment Check 4-14
2. Deck Preparation for Adjustment 4-15
3. Checking Torque 4-15
4. Guide Roller Height Adjustment 4-16
   - 4-1. Preliminary Adjustment 4-16
   - 4-2. Precise Adjustment 4-16
5. Audio/Control (A/C) Head Adjustment 4-17
   - 5-1. Preliminary Adjustment 4-17
   - 5-2. Confirmation of Tape Path between Pinch Roller and Take-up Guide 4-18
   - 5-3. Precise Adjustment(Azimuth Adjustment) 4-18
6. X-Value Adjustment 4-18
7. Adjustment after Replacing Drum Assembly (Video Heads) 4-19
8. Check the Tape Travel after Reassembling Deck Mechanism 4-19
   - 8-1. Checking Audio and RF Locking Time during Playback after CUE or REV 4-19
   - 8-2. Checking Tape Curling or Jamming 4-19

MAIN TENANCE/INSPECTION PROCEDURE

1. Check before starting Repairs 4-20
2. Required Maintenance 4-21
3. Scheduled Maintenance 4-21
4. Supplies Required for Inspection and Maintenance 4-21
5. Maintenance Procedure 4-21
   - 5-1. Cleaning 4-21
   - 5-2. Greasing 4-22

MACHANISM TROUBLESHOOTING GUIDE

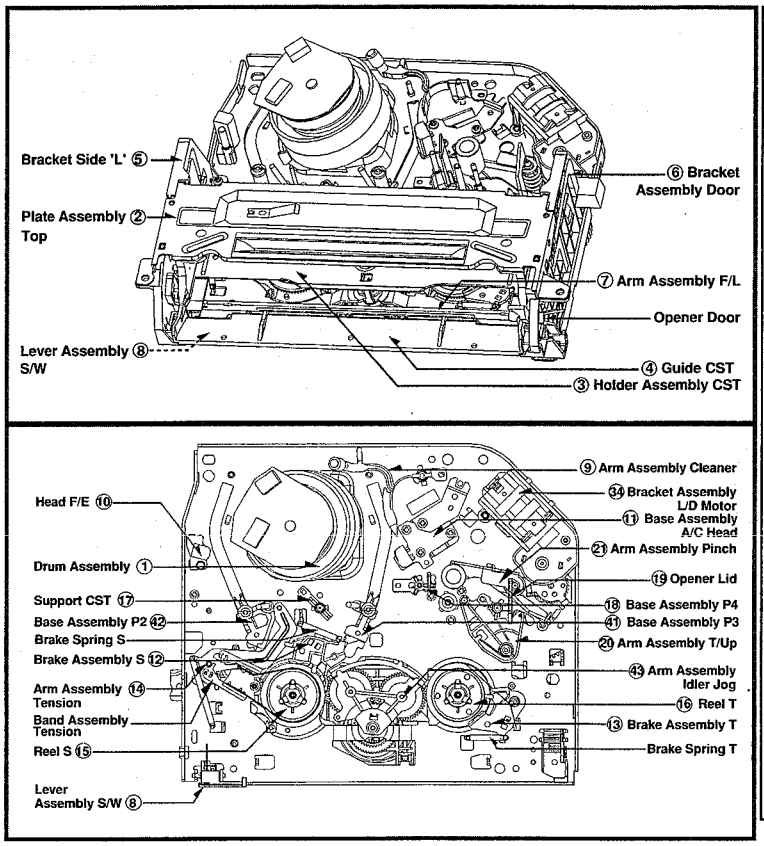
1. Deck Mechanism 4-23
2. Front Loading Mechanism 4-26

EXPLODED VIEWS

1. Front Loading Mechanism Section 4-28
2. Moving Mechanism Section (1) 4-29
3. Moving Mechanism Section (2) 4-30

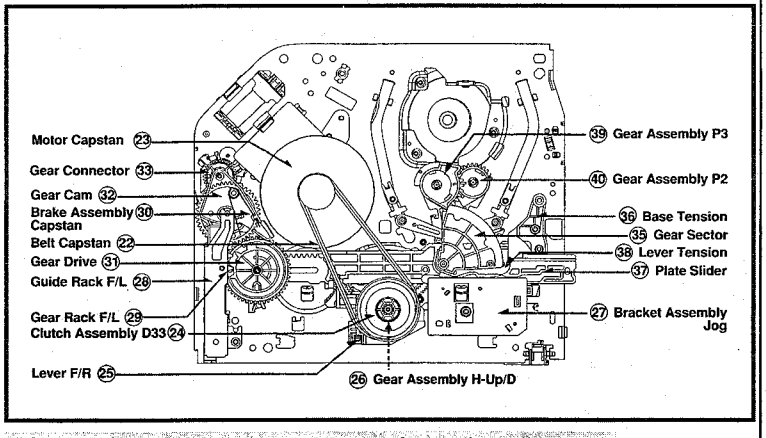
DECK MECHANISM PARTS LOCATIONS

• Top View



Pracedure / Starting No.		Part	Fixing Type	Figure
	1	Drum Assembly	3 Screws , Cap FPC	A-1
	2	Plate Assembly Top	Two Hooks	A-2
2	3	Holder Assembly CST	Chassis Hole	A-2
	4	Guide CST	2 Hooks	A-2
2,3,4	5	Bracket Side (L)	1 Screw	A-2
2,3,4	6	Bracket Assembly Door	1 Screw	A-2
2,3,4,5,6	7	Arm Assembly F/L	Chassis Hole	A-2
2,3,4,5	8	Lever Assembly S/W	Chassis Hole	A-2
	9	Arm Assembly Cleaner	Chassis Embossing	A-3
	10	Head F/E	2 Hooks	A-3
	11	Base Assembly A/C Head	1 Screw	A-3
	12	Brake Assembly S	Chassis Hole	A-4
2,3	13	Brake Assembly T	Chassis Hole	A-4
2,3,12,	14	Arm Assembly Tension	Chassis Hole	A-4
2,3,12,14	15	Reel S	Chassis Shaft	A-4
2,3,13	16	Reel T	Chassis Shaft	A-4
	17	Support CST	Chassis Embossing	A-5
	18	Base Assembly P4	Chassis Embossing	A-5
	19	Opener Lid	Chassis Embossing	A-5
19	20	Arm Assembly T/Up	Chassis Embossing	A-5
19	21	Arm Assembly Pinch	Chassis Shaft	A-5

• Bottom View



Pracedure / Starting No.		Part	Fixing Type	Figure
	22	Belt Capstan		A-6
22	23	Motor Capstan	3 Screws	A-6
	24	Clutch Assembly D33	1 Washer	A-6
22,24	25	Lever F/R	1 Hook	A-6
22,24	26	Gear Assembly H-Up/D	2 Washers	A-6
	27	Bracket Assembly Jog	1 Screw	A-7
	28	Guide Rack F/L	1Screw	A-7
28	29	Gear Rack F/L		A-7
28, 29	30	Brake Assembly Capstan	Chassis Shaft	A-7
28, 29	31	Gear Drive	1 Washer	A-8
28, 29, 30	32	Gear Cam	Chassis Shaft	A-8
28, 29, 30, 31	33	Gear Connector	Chassis Shaft	A-8
	34	Bracket Assembly L/D Motor	3 Hooks	A-8
	35	Gear Sector	3 Washers	A-9
	36	BaseTension	1 Screw	A-9
22, 24, 25, 27, 28, 29, 31, 35, 36	37	Plate Slider	Chassis Shaft	A-9
22, 24, 25, 27, 28, 29, 31, 35, 36	38	Lever Tension	Chassis Hole	A-9
35	39	Gear Assembly P3	2 Hooks	A-10
35, 39	40	Gear Assembly P2	2 Hooks	A-10
35, 39, 40	41	Base Assembly P3	Chassis Hole	A-10
35, 39, 40, 41	42	Base Assembly P2	Chassis Hole	A-10
1, 2	43	Arm Assembly Idler Jog	1 Hook	A-10

NOTE : When reassembly perform the procedure in the reverse order.

1) When reassembling, confirm Mechanism and Mode Switch Alignment Position (Pefer to Page 4-14)
2) When disassembling, the Parts for Starting No. Should be removed first.

DECK MECHANISM DISASSEMBLY

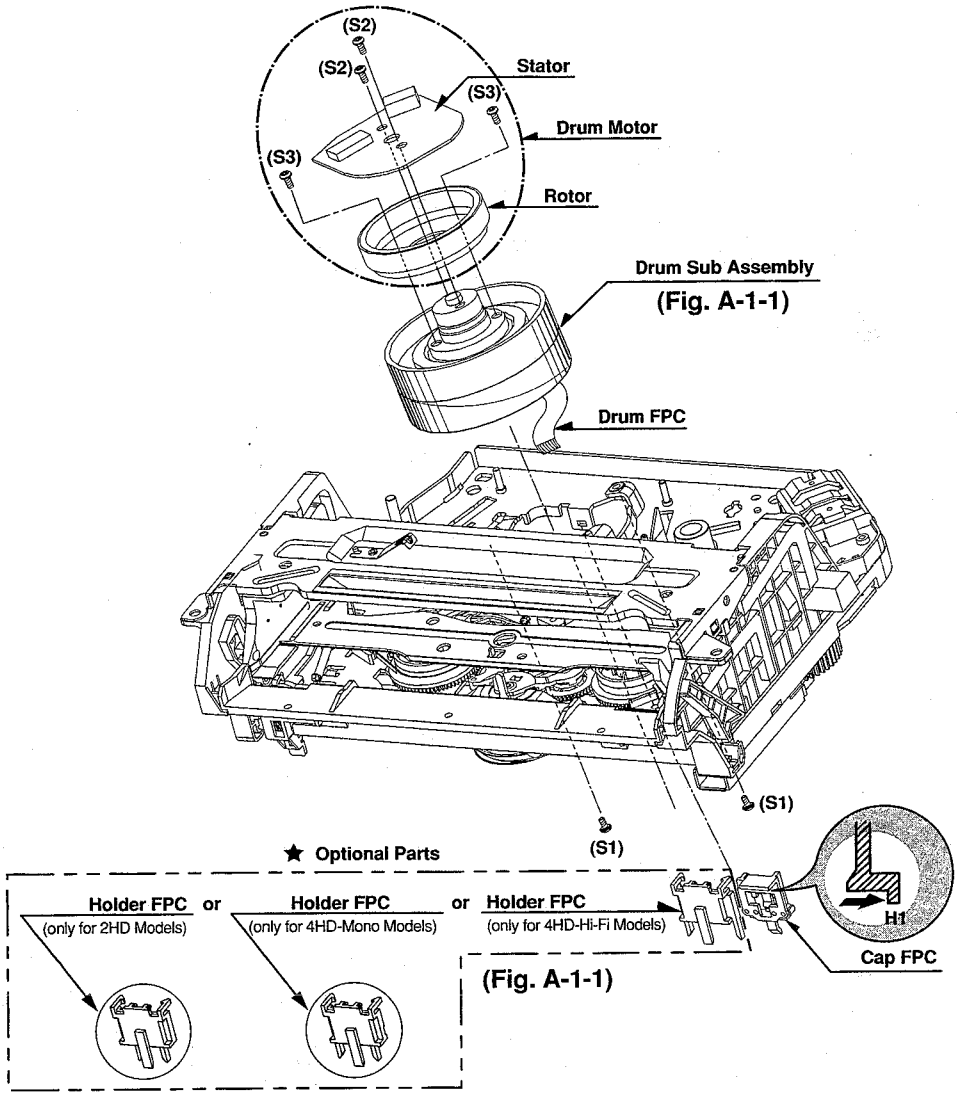


Fig. A-1

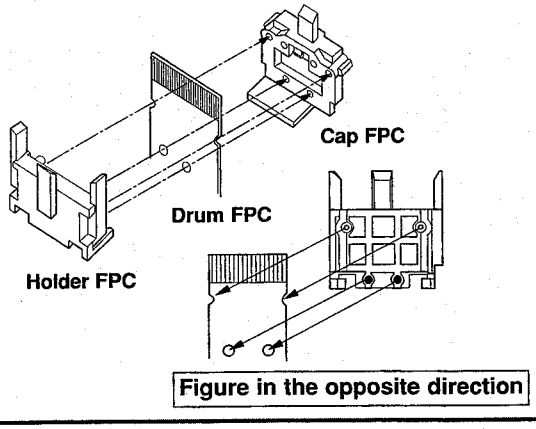
1. Drum Assembly (Fig. A-1-1)

1) Unhook the (H1) on the back side of the Chassis and separate the Cap FPC.
2) Remove three Screws (S1) and lift up the Drum Assembly.
3) Remove two Screws (S2) and Separate the Stator of Drum Motor.
4) Remove two Screws (S3) and Separate the Rotor of Drum Motor from the Drum Sub Assembly.

NOTE

(1) When reassembling Cap FPC, two Holes of Drum FPC are inserted to the two Bosses of Holder FPC correctly. (Refer to Fig. B-1)

(Fig. B-1)



DECK MECHANISM DISASSEMBLY

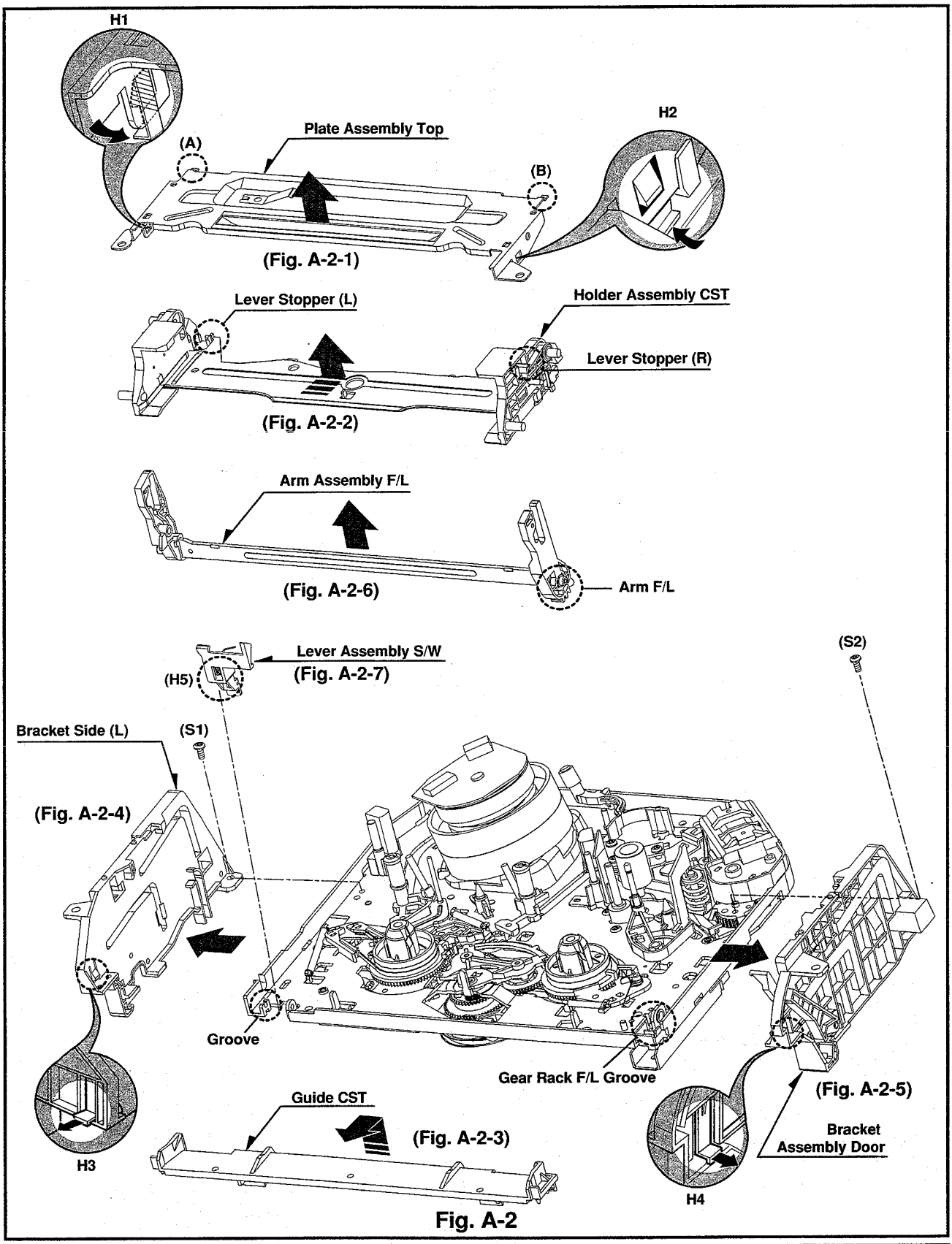


Fig. A-2

DECK MECHANISM DISASSEMBLY

2. Plate Assembly Top (Fig. A-2-1)

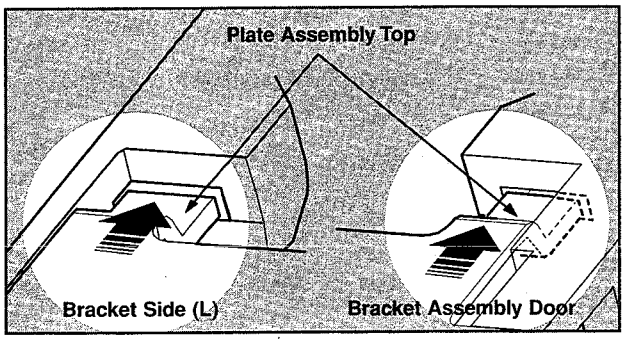
1) Unhook the (H1) and separate the Left Side.
2) Unhook the (H2) and lift up the Plate Assembly Top.

NOTE

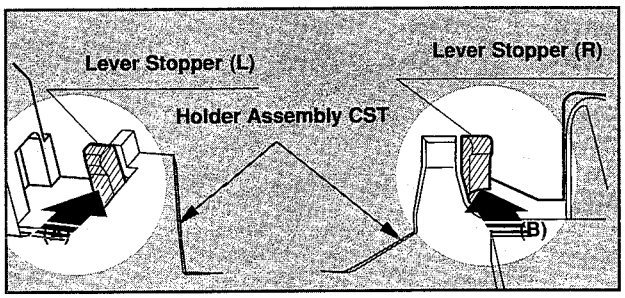
(1) When reassembling, confirm (A),(B) Part of the Plate Assembly Top is inserted to the (L),(R) Grooves of the Bracket Side(L) and Bracket Assembly Door.

3. Holder Assembly CST (Fig.A-2-2)

1) Push the Lever Stopper(L),(R) in the direction of the arrows (A), (B), and move the Holder Assembly CST.

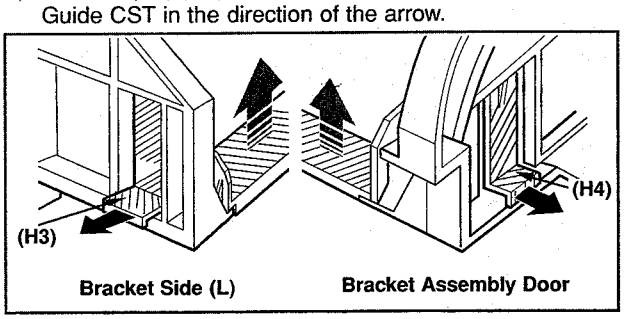


2) Push the Bracket Assembly Door to the right and lift up the Holder Assembly CST along the Guide Groove of the Bracket Assembly Door.



4. Guide CST (Fig.A-2-3)

1) Push two Hooks(H3),(H4) in the direction of the arrow and separate the left side.
2) Unhook (H5),(H6) as above No.1) and disassemble the Guide CST in the direction of the arrow.



5. Bracket Side(L) (Fig. A-2-4)/ Bracket Assembly Door (Fig.A-2-5)

1) Remove the Screw (S1) and disassemble the Bracket Side(L) in the front.
2) Remove the Screw (S2) and disassemble the Bracket Assembly Door in the front.

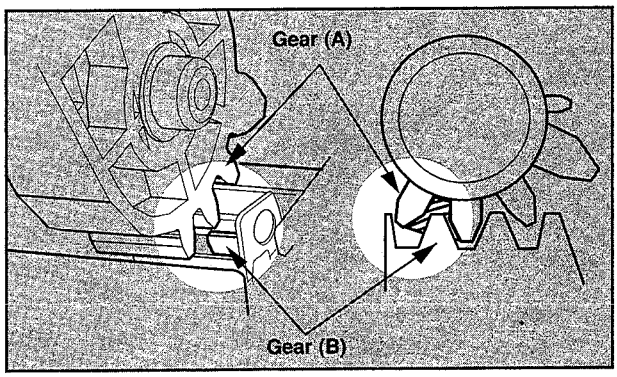
6. Arm Assembly F/L (Fig. A-2-6)

1) Push the Arm Assembly F/L to the left and lift up it.

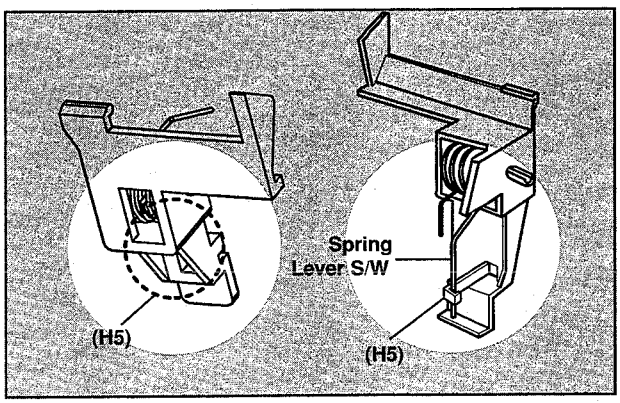
NOTE

(1) When reassembling, confirm that the Gear(A) of the Arm F/L and the Gear(B) of the Gear Rack F/L are assembled as below.

7. Lever Assembly S/W (Fig. A-2-7)

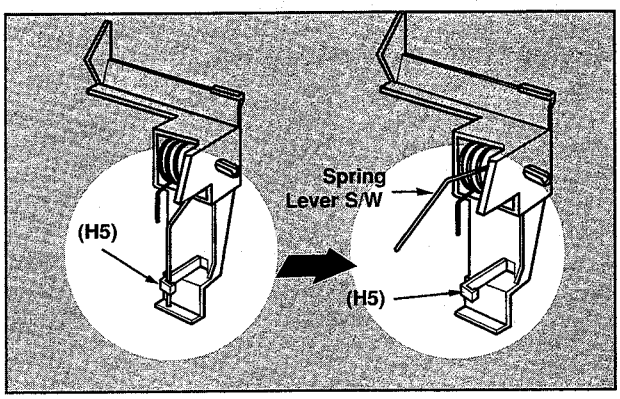


1) Hook the Spring Lever S/W on (H5).
2) Lift up the left side of the Lever S/W from the Groove(A) of the Chassis.



NOTE

(1) Place the Spring Lever S/W of the above (No.1) as original position.



DECK MECHANISM DISASSEMBLY

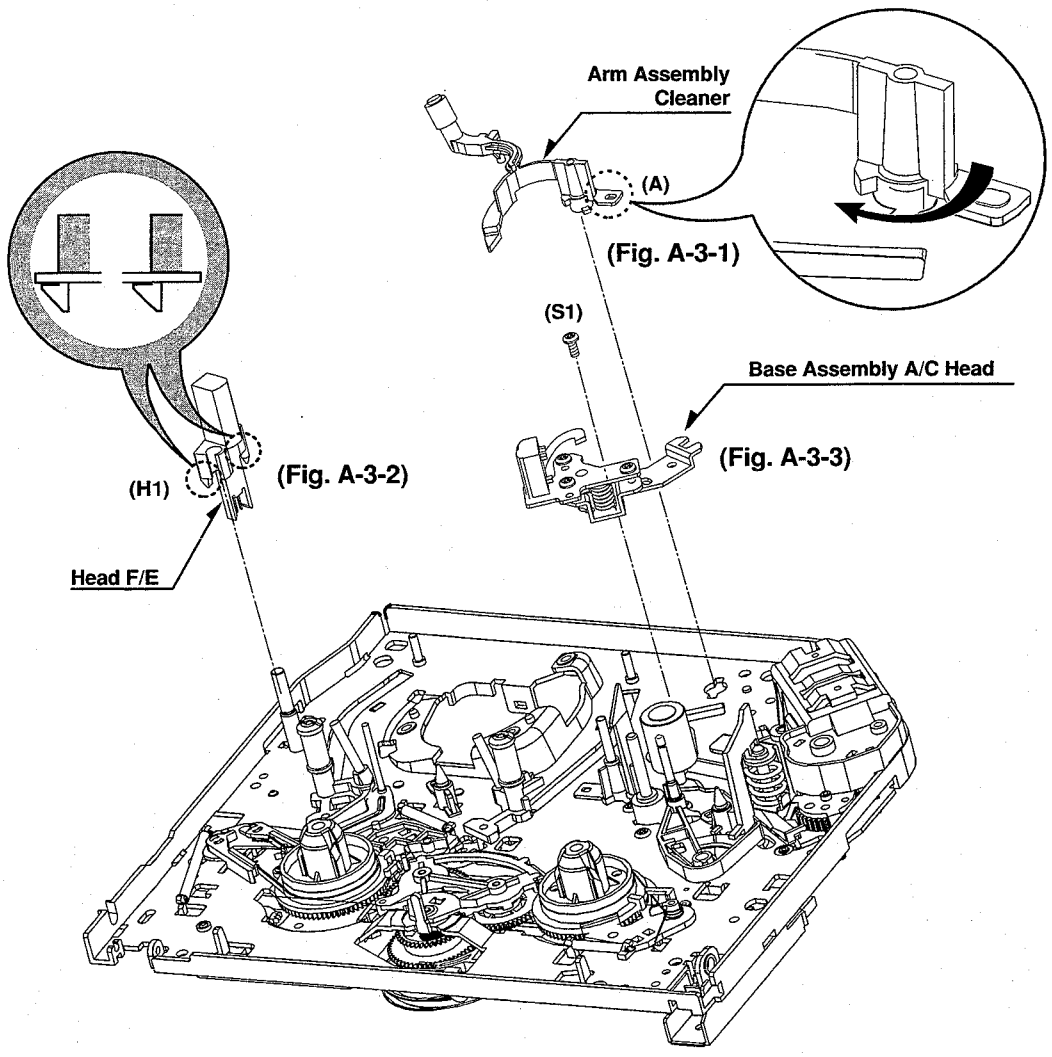


Fig. A-3

8. Arm Assembly Cleaner(Fig. A-3-1)

1) Break away the (A) part shown above Fig. A-3-1 from the Embossing of the Chassis in the clockwise direction and lift up the Arm Assembly Cleaner.

9. Head F/E (Fig. A-3-2)

1) Unhook the two Hooks (H1) on the back side of the Chassis and lift up the Head F/E.

10. Base Assembly A/C Head (Fig. A-3-3)

1) Remove the Screw (S1) and lift up the Base Assembly A/C Head.

DECK MECHANISM DISASSEMBLY

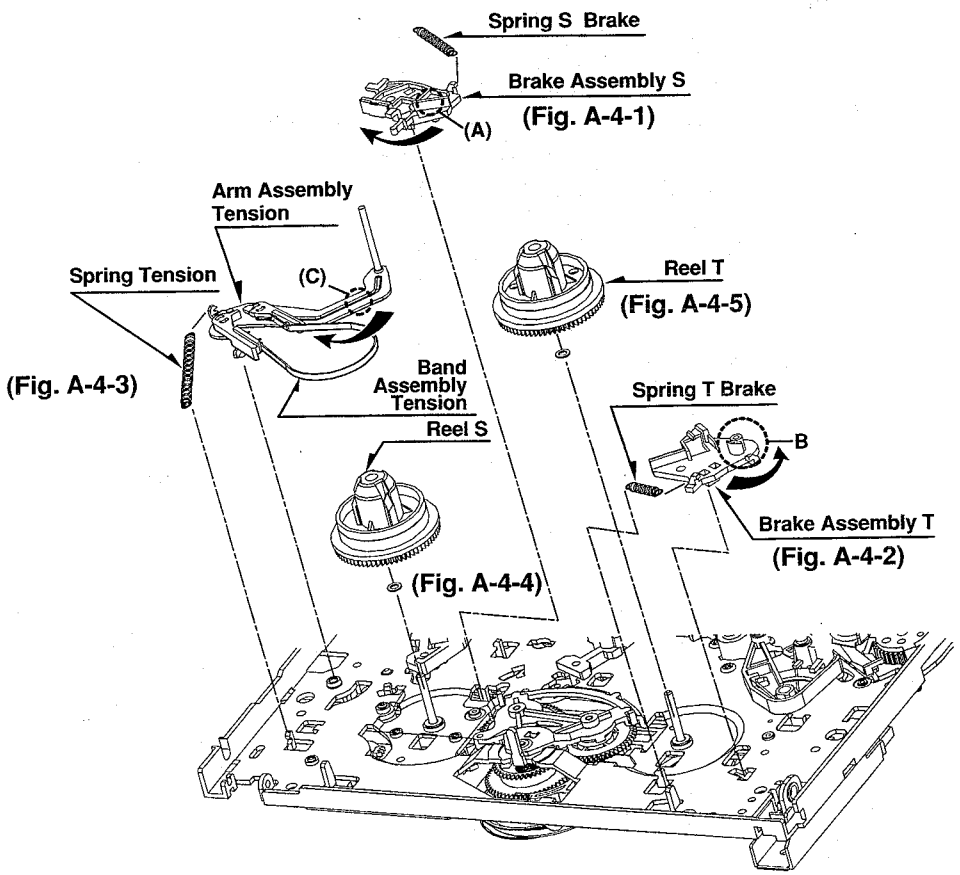


Fig. A-4

11. Brake Assembly S (Fig. A-4-1)

1) Remove the Spring S Brake.
2) Hold the (A) part shown above Fig. A-4-1 and turn to the clockwise direction, and then lift up the Brake Assembly S.

NOTE

(1) When reassembling, be careful not to change the Spring with below No.12.(Refer to Fig. B-2).

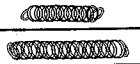
12. Brake Assembly T (Fig. A-4-2)

1) Remove the Spring T Brake.
2) Hold the (B) part shown above Fig. A-4-2 and turn to the counterclockwise direction, and then lift up the Brake Assembly T.

NOTE

(1) When reassembling, be careful not to change the Spring with above No.11.(Refer to Fig. B-2).

(Difference for Springs) **(Fig. B-2)**

	Spring T Brake Color (Black)
	Spring S Brake
	**Spring Tension**

13. Arm Assembly Tension (Fig. A-4-3)

1) Remove the Spring Tension.
2) Hold the (C) part shown above Fig. A-4-3 and turn to the clockwise direction, and then lift up the Arm Assembly Tension.

NOTE

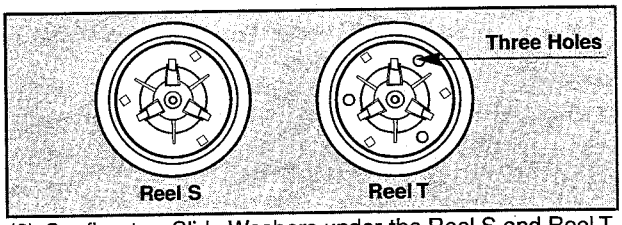
(1) When reassembling, be careful not to change the Spring with above No.11,12.(Refer to Fig. B-2).

14. Reel S (Fig. A-4-4) & Reel T (Fig. A-4-5)

1) Lift up the Reel S and Reel T.

NOTE

(1) When reassembling, be careful not to change the Reel S and Reel T each other.



(2) Confirm two Slide Washers under the Reel S and Reel T.

DECK MECHANISM DISASSEMBLY

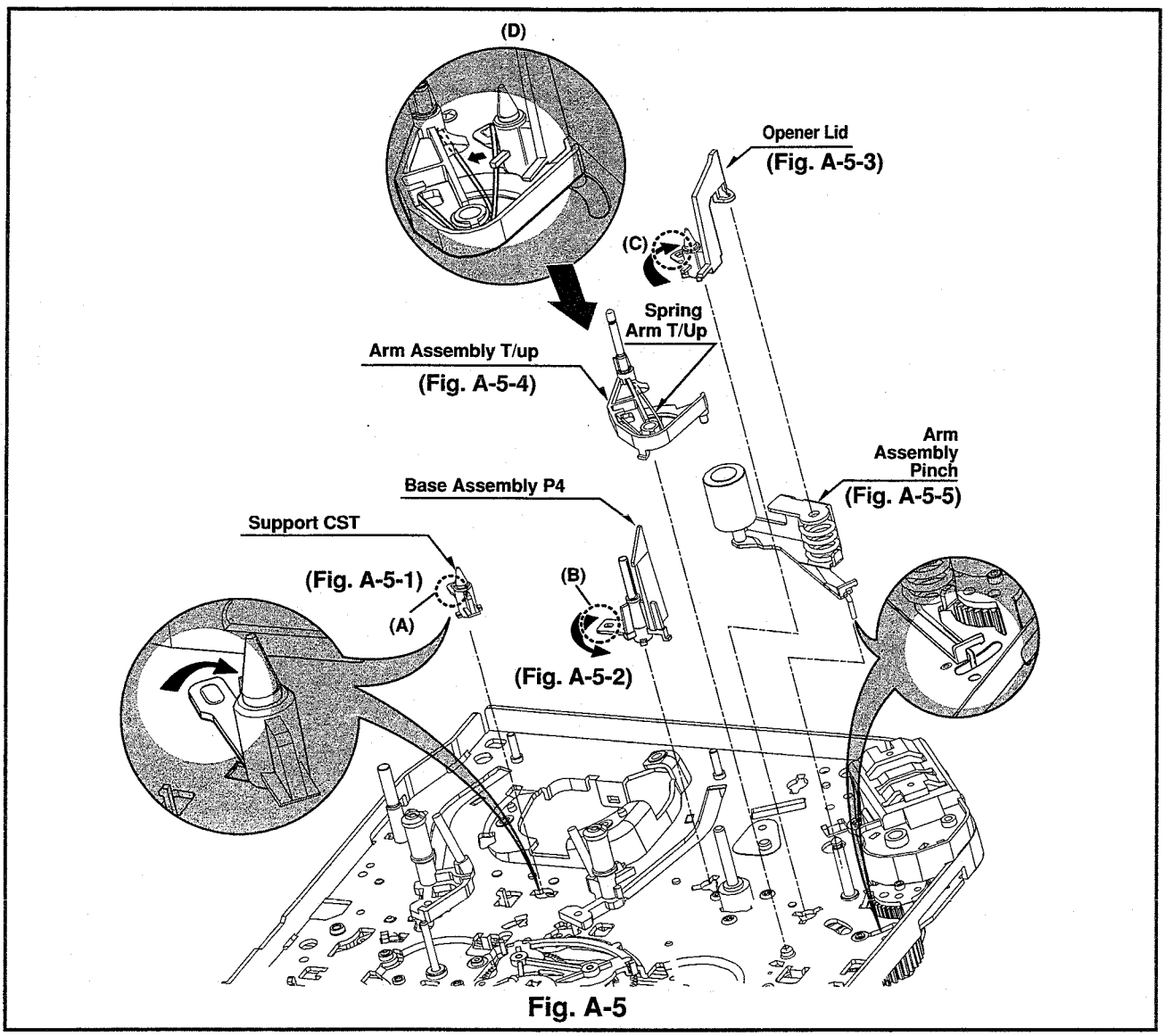


Fig. A-5

15. Support CST (Fig. A-5-1)

1) Break away the (A) part shown above Fig. A-5-1 from the Embossing of the Chassis in the clockwise direction, and lift up the Support CST.

16. Base Assembly P4 (Fig. A-5-2)

1) Break away the (B) part shown above Fig. A-5-2 from the Embossing of the Chassis in the counterclockwise direction and lift up the Base Assembly P4.

17. Opener Lid (Fig. A-5-3)

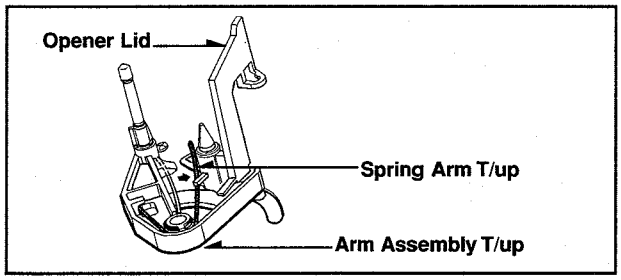
1) Hook the Spring Arm T/up on the Split digged under the Arm Assembly T/up.(Refer to Fig.A-5-4(D)).
2) Break away the (C) Part of the Opener Lid from the Embossing of the Chassis in the Clockwise direction and lift up the Opener Lid.

18. Arm Assembly T/up (Fig. A-5-4)

1) Confirm that the Spring Arm T/up is placed as above (No.17.1).
2) Lift up the Arm Assembly T/up.

NOTE

(1) When reassembling, unhook the Spring Arm T/up Shown above (No.17.1) to the original position.



19. Arm Assembly Pinch (Fig. A-5-5)

1) Lift up the Arm Assembly Pinch.

DECK MECHANISM DISASSEMBLY

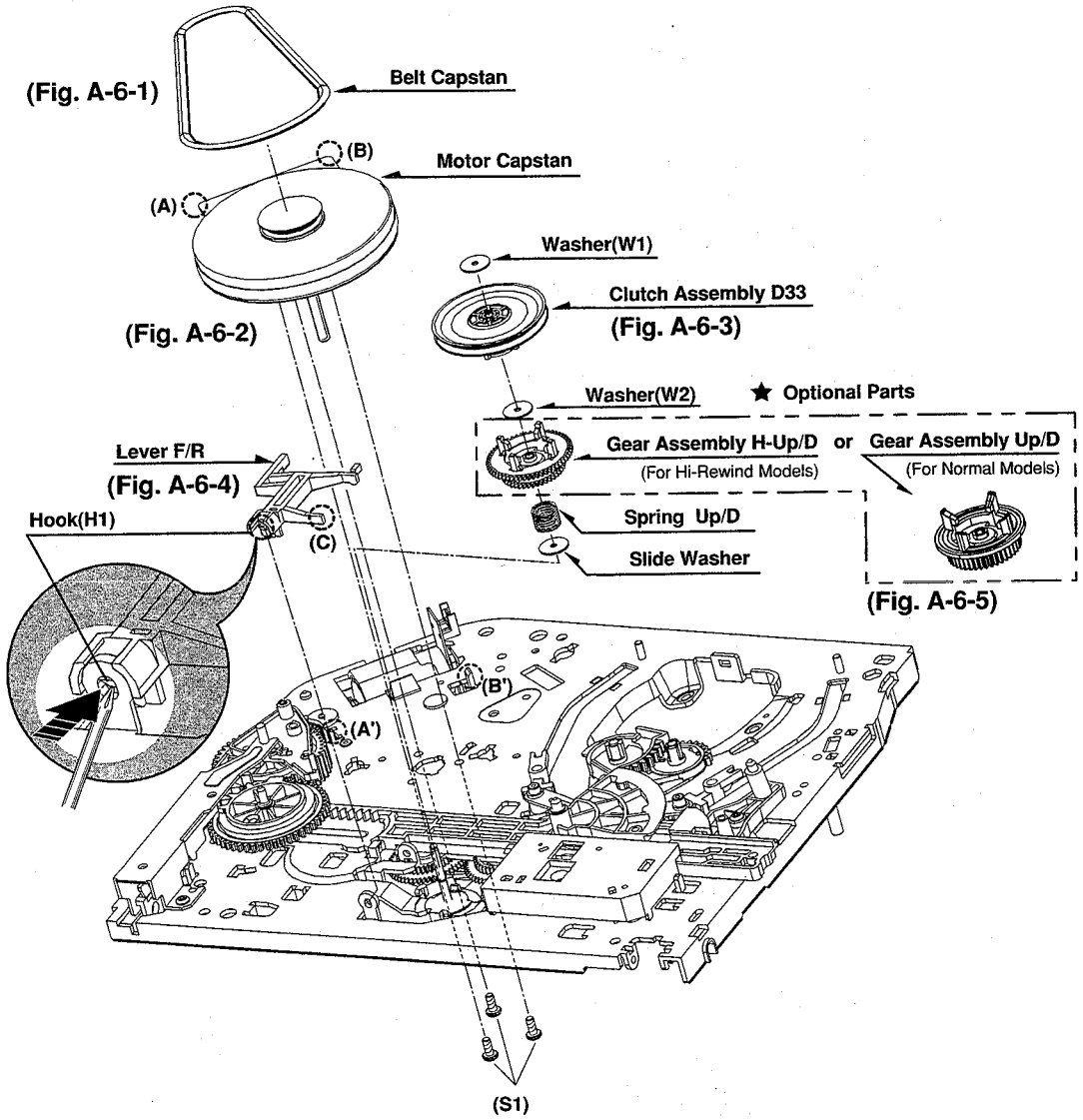


Fig. A-6

20. Belt Capstan (Fig. A-6-1)/ Motor Capstan (Fig. A-6-2)

1) Remove the Belt Capstan.
2) Remove three Screws(S1) on the back side of the Chassis and lift up the Motor Capstan.

NOTE

(1) When reassembling, Confirm the (A), (B) parts of Motor Capstan is located to the (A'), (B') of the Chassis.

21. Clutch Assembly D33 (Fig. A-6-3)

1) Remove the Washer(W1) and lift up the Clutch Assembly D33.

22. Lever F/R (Fig. A-6-4)

1) Unhook the (H1) shown above Fig. A-6-4 and lift up the Lever F/R.

NOTE

(1) When reassembling, move the (C) part of the Lever F/R up and down, then confirm if it is returned to original position.

23. Gear Assembly H-Up/D or Gear Assembly Up/D (Fig. A-6-5)

1) Remove the Washer(W2) and lift up the Gear Assembly H-up/D.
2) Remove the Spring Up/D.
3) Remove the Slide Washer.

NOTE

(1) Gear Assembly H-Up/D is for Hi-Rewind Models.
(2) Gear Assembly Up/D is for Normal Models except Hi-Rewind Models.

DECK MECHANISM DISASSEMBLY

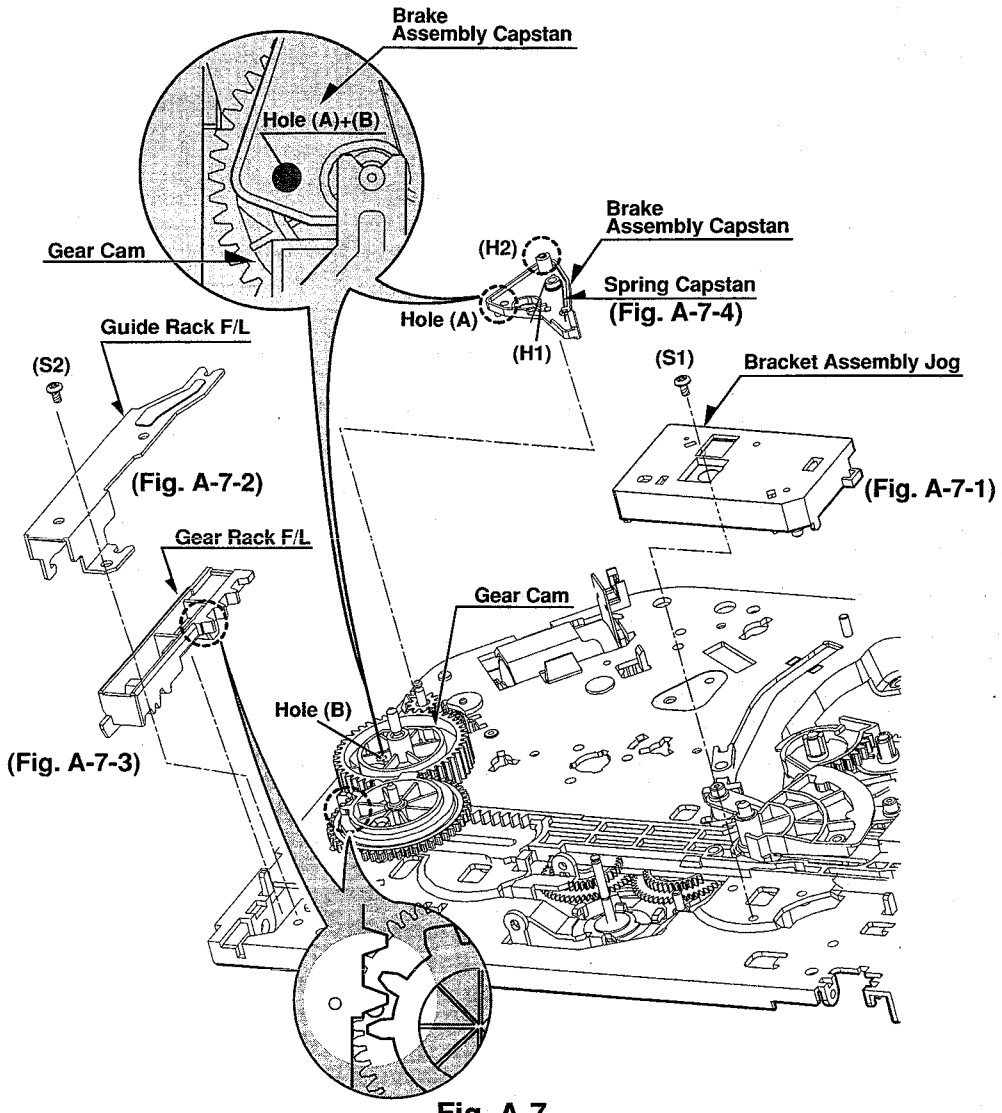


Fig. A-7

24. Bracket Assembly Jog (Fig. A-7-1)

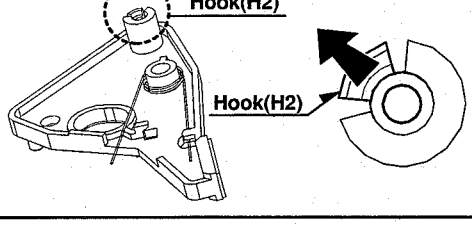
1) Remove the Screw(S1) and lift up the Bracket Assembly Jog.

25. Guide Rack F/L (Fig. A-7-2)/ Gear Rack F/L (Fig. A-7-3)

1) Remove the Screw(S2) and lift up the Guide Rack F/L.
2) Lift up the Gear Rack F/L.

26. Brake Assembly Capstan (Fig. A-7-4)

1) Hook the Spring Capstan on the Hook(H1).
2) Unhook the Hook(H2) and lift up the Brake Assembly Capstan.(Refer to Fig. to the right)



NOTE

(1) When reassembling, confirm that the Hole(A) of the Brake Assembly Capstan is aligned to the Hole(B) of the Gear Cam.
(Refer to above Fig. A-7-4).

DECK MECHANISM DISASSEMBLY

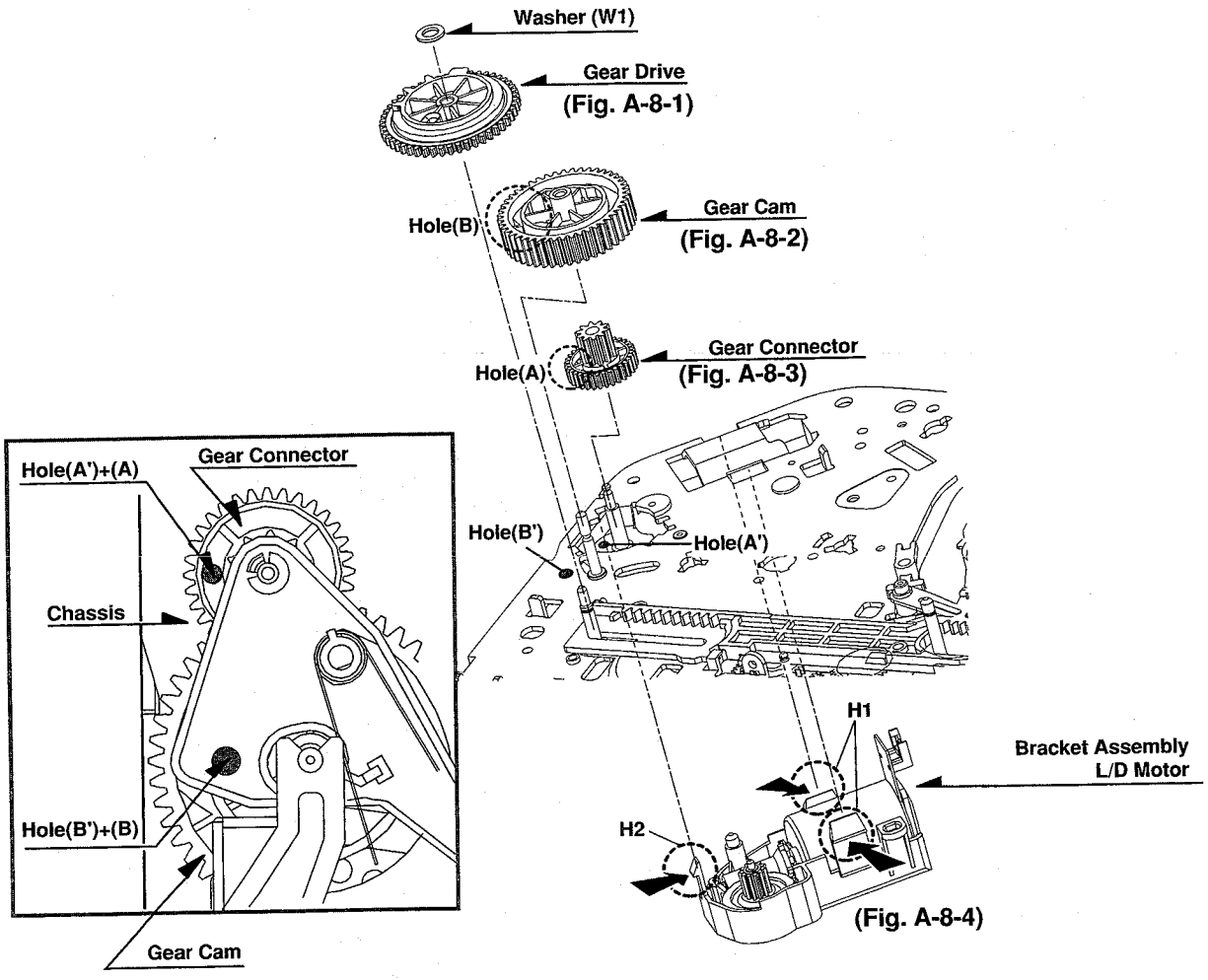


Fig. A-8

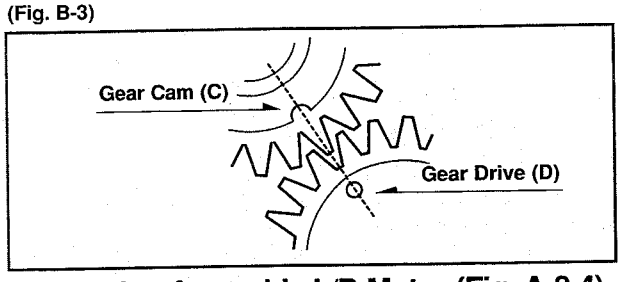
27. Gear Drive (Fig. A-8-1)/ Gear Cam (Fig. A-8-2)/ Gear Connector (Fig. A-8-3)

1) Remove the Washer(W1) and lift up the Gear Drive.
2) Lift up the Gear Cam.
3) Lift up the Gear Connector.

NOTE

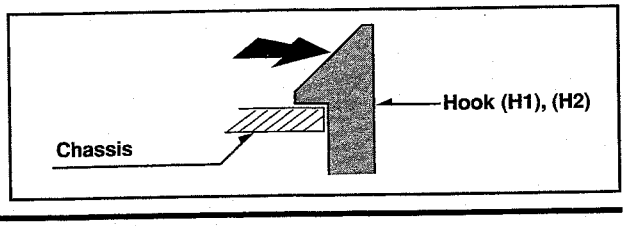
(1) When reassembling, confirm that the Hole (A) of the Gear Connector is aligned to the Hole (A') of the Chassis (Fig. A-8-3).
(2) When reassembling, confirm that the Hole (B) of the Gear Cam is aligned to the Hole (B') of the Chassis (Fig. A-8-2).
(3) When reassembling, confirm that the (C) part of the Gear Cam is aligned to the (D) part of the Gear Drive as shown Fig. B-3

(Fig. B-3)



28. Bracket Assembly L/D Motor (Fig. A-8-4)

1) Unhook the three Hooks(H1),(H2) and push down the Bracket Assembly L/D Motor.



DECK MECHANISM DISASSEMBLY

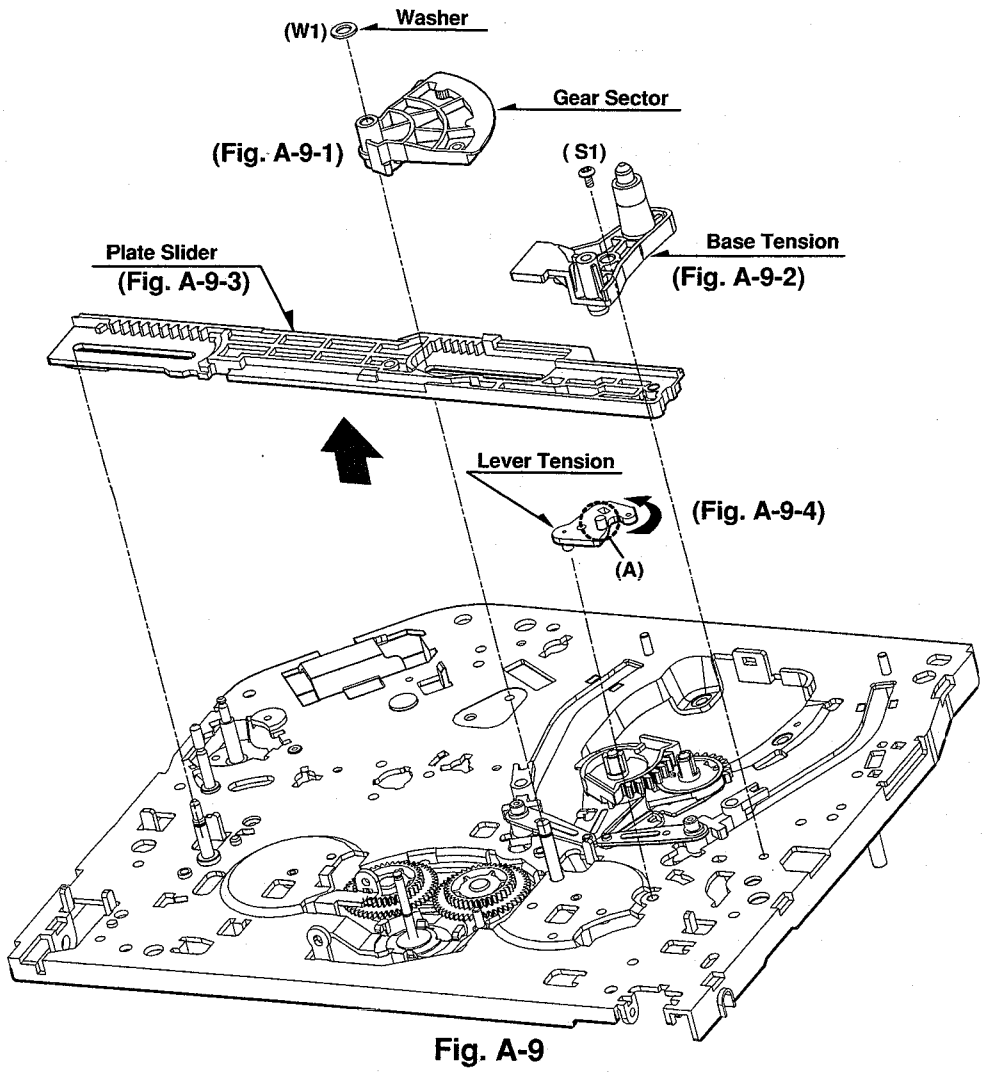


Fig. A-9

29. Gear Sector (Fig. A-9-1)

1) Remove the Washer(W1) and lift up the Gear Sector.

30. Base Tension (Fig. A-9-2)/ Plate Slider (Fig. A-9-3)/ Lever Tension (Fig. A-9-4)

1) Remove the Screw(S1) and lift up the Base Tension.
2) Lift up the Plate Slider.
3) Hold the (A) Part of the Lever Tension and turn to the counterclockwise direction, and then lift up the Lever Tension.

NOTE

(1) When reassembling, turn the Lever Tension to the clockwise direction in maximum.

DECK MECHANISM DISASSEMBLY

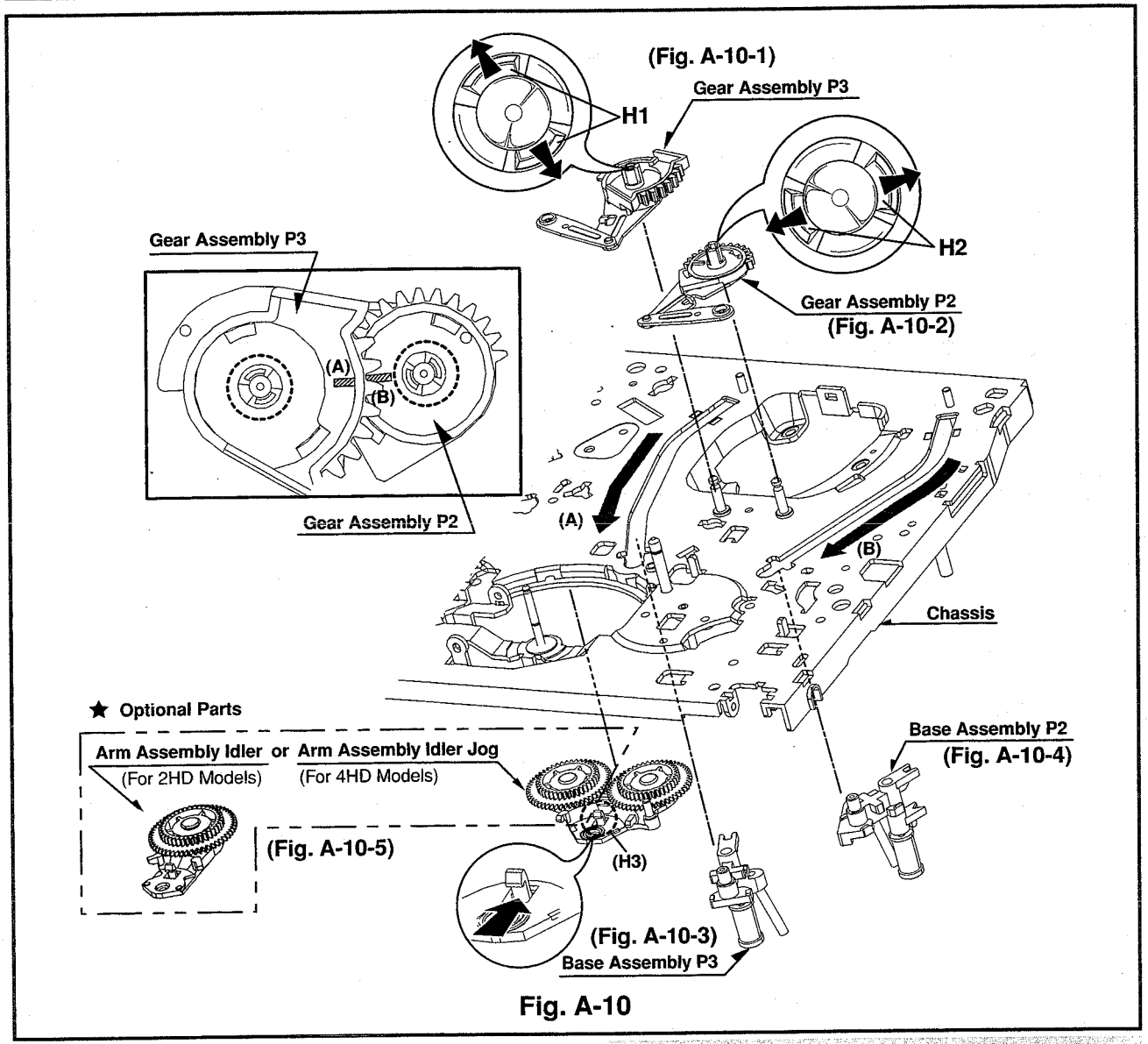


Fig. A-10

31. Gear Assembly P3 (Fig. A-10-1)/ Gear Assembly P2 (Fig. A-10-2)

1) Unhook the two Hooks(H1) and lift up the Gear Assembly P3.
2) Unhook the two Hooks(H2) and lift up the Gear Assembly P2.

32. Base Assembly P3 (Fig. A-10-3)/ Base Assembly P2 (Fig. A-10-4)

1) Move the Base Assembly P3 in the direction of the arrow of the Chassis Hole(A) and push down the Base Assembly P3.
2) Move the Base Assembly P2 in the direction of the arrow of the Chassis Hole(B) and push down the Base Assembly P2.

33. Arm Assembly Idler Jog or Arm Assembly Idler (Fig. A-10-5)

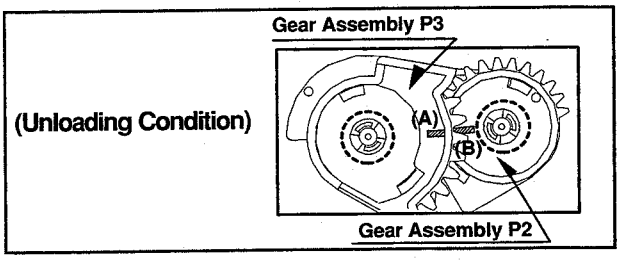
1) Unhook the Hook(H3) and push down the Arm Assembly Idler Jog.

NOTE

1) Arm Assembly Idler Jog is for 4HD Models.
2) Arm Assembly Idler is for 2HD Models.

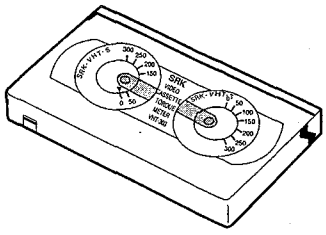
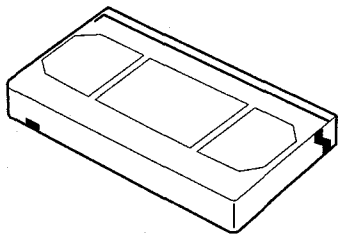
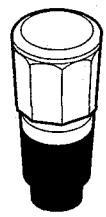
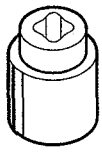
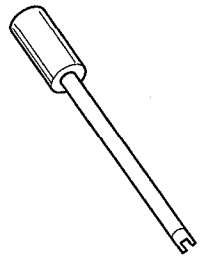
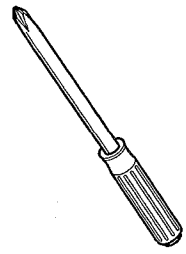
NOTE

1) When reassembling, confirm that the (A) Part of the Gear Assembly P3 is aligned to the (B) Part of the Gear Assembly P2 as shown below.



DECK MECHANISM ADJUSTMENT

• Tools and Fixfures for Service

1. Cassette Torque meter SRK-VHT-303(Not SVC part) Parts No: D00-D006 	2. Alignment tape Parts No NTSC: DTN-001 PAL:DTN-0002 	3. Torque gauge 600g.Cm ATG Parts No:D00-D002 
4. Torque gauge adaptor Parts No:D09-R001 	5. Post height adjusting driver Parts No:DTL-0005 	6. + Type driver (ø 5) 

DECK MECHANISM ADJUSTMENT

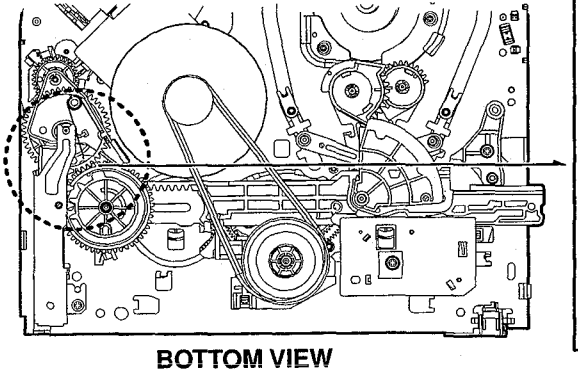
1.Mechanism Alignment Position Check

Purpose:To determine if the Mechanism is in the correct position, when a Tape is ejected.

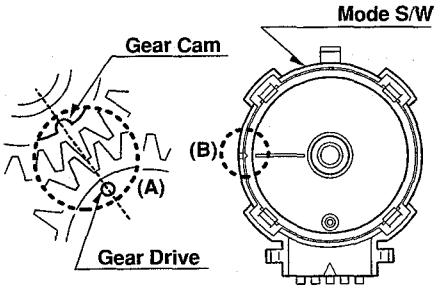
Test Equipment/ Fixture	Test Conditions (Mechanism Condition)	Check Point
• Blank tape	• Eject Mode (with Cassette ejected)	• Mechanism and Mode Switch Position

1) Turn the Power S/W on and eject the Cassette by pressing the Eject Button.
2) Remove the Top Cover and Plate Assembly Top, visually check if the Gear Cam Hole is aligned with the Chassis Hole as below Fig. C-2.
3) IF not, rotate the Shaft of the Loading Motor to either Clockwise or Counterclockwise until the Alignment is as below Fig. C-2.
4) Remove the Screw which fixes the Deck Mechanism and Main Frame and confirm if the Gear Cam is aligned with the Gear Drive as below Fig. C-1(A).
5) Confirm if the Mode S/W on the Main P.C.Board is aligned as below Fig. C-1(B).
6) Remount the Deck Mechanism on the Main P.C.Board and check each operation.

CHECK DIAGRAM

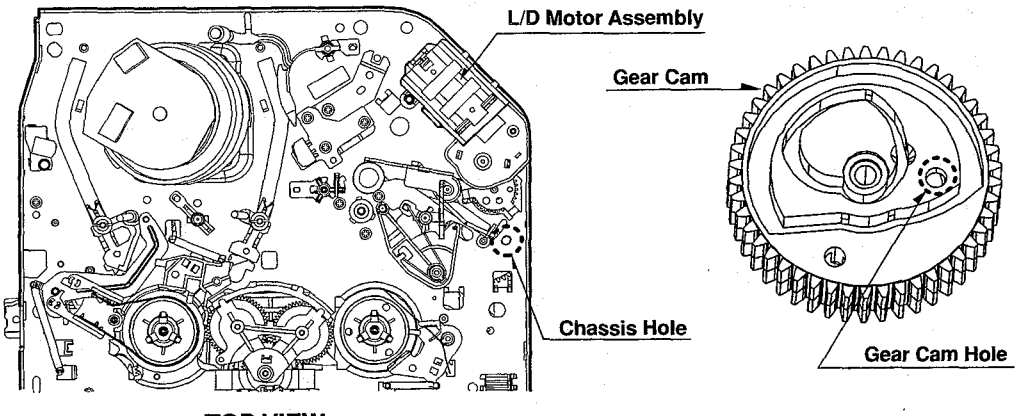


BOTTOM VIEW



Gear Cam (∩) and Gear Drive (o) groove alignment

Fig. C-1



TOP VIEW

Fig. C-2

DECK MECHANISM ADJUSTMENT

2. Preparation for Adjustment (To set the Deck Mechanism to the Loading state without inserting a Cassette Tape).

1) Unplug the Power Cord from the AC Outlet.
2) Disassemble the Top Cover and Plate Assembly Top.
3) Plug the Power Cord into the AC Outlet.
4) Turn the Power S/W on and push the Lever Stopper (L),(R) of the Holder Assembly CST to the back for Loading the Cassette without Tape.
Cover the Holes of the End Sensors at the both sides of the Bracket Side(L) and Bracket Assembly Door to prevent a light leak.
Then The Deck Mechanism drives to the Stop Mode.
In this case, The Deck Mechanism can accept inputs of each mode, however the Rewind and Review Operation can not be performed for more than a few seconds because the Take-up Reel Table is in the Stop State and can not be detected the Reel Pulses.

3. Checking Torque

Purpose: To insure smooth Transport of the Tape during each Mode of Operation. If the Tape Transport is abnormal, then check the Torque as indicated by the chart below.

Test Equipment/ Fixture	Test Conditions (Mechanism Condition)	Checking Method
• Torque Gauge(600g/cm ATG) • Torque Gauge Adaptor • Cassette Torque Meter SRK-VHT-303	• Play (FF) or Review (REW) Mode	• Perform each Deck Mechanism Mode without inserting a Cassette Tape(Refer to above No.2 Preparation for Adjustment). • Read the Measurement of the Take-up or Supply Reels on the Cassette Torque Meter(Fig. C-3-2). • Attach the Torque Gauge Adaptor to the Torque Gauge and then read the Value of it(Fig. C-3-1).

Item	Mode	Test Equipment	Measurement Reel	Measurement Values
Fast Forward Torque	Fast Forward	Cassette Torque Gauge	Take-Up Reel	More than 400g/cm
Rewind Torque	Rewind	Cassette Torque Gauge	Supply Reel	More than 400g/cm
Play Take-Up Torque	Play	Cassette Torque Meter	Take-Up Reel	75~115g/cm
Review Torque	Review	Cassette Torque Meter	Supply Reel	130~200g/m

NOTE:

The Values are measured by using a Torque Gauge and Torque Gauge Adaptor with the Torque Gauge affixed.

• Cassette Torque Meter (SRK-VHT-303)

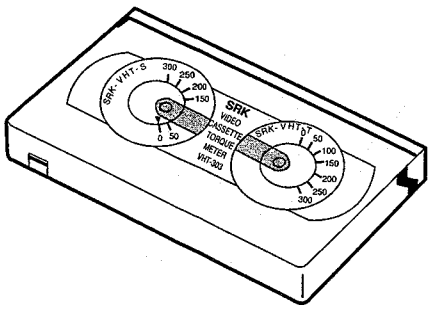


Fig. C-3-2

NOTE:

The Torque reading to measure occurs when the Tape abruptly changes direction from Fast Forward of Rewind Mode, when quick bracking is applied to both Reels.

• Torque Gauge (600g.cm ATG)

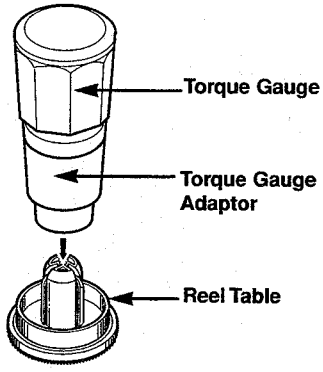


Fig. C-3-1

DECK MECHANISM ADJUSTMENT

4.Guide Roller Height Adjustment

Purpose: To regulate the Height of the Tape so that the Bottom of the Tape runs along the Tape Guide Line on the Lower Drum.

4-1. Preliminary Adjustment

Test Equipment/ Fixture	Test Conditions (Mechanism Condition)	Adjustment Point
• Post Height Adjusting Driver	• Play or Review Mode	• Guide Roller Height Adjustment screws on the Supply and Take-Up Guide Rollers.

Adjustment Procedure

1) Confirm if the Tape runs along the Tape Guide Line of the Lower Drum.
2) If the Tape runs the Bottom of the Guide Line, turn the Guide Roller Height Adjustment Screw to Clockwise direction.
3) If it runs the Top, turn to Counterclockwise direction.
4) Adjust the Height of the Guide Roller to be guided to the Guide Line of the Lower Drum from the Starting and Ending Point of the Drum.

ADJUSTMENT DIAGRAM

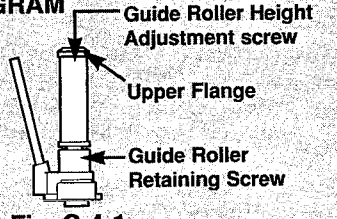


Fig. C-4-1

4-2. Precise Adjustment

Test Equipment/Fixture	Test Equipment Connection Points	Test Conditions VCR(VCP) State	Adjustment Point
• Oscilloscope • Alignment Tape • Post Height Adjusting Driver	• CH-1:PB RF Envelope • CH-2:NTSC: SW 30Hz PAL: SW 25Hz • Head Switching Output Point • RF Envelope Output Point	• Play an Alignment Tape	• Guide Roller Height Adjustment Screws

Adjustment Procedure

1) Play an Alignment Tape after connecting the Probe of the Oscilloscope to the RF Envelope Output Test Point and Head Switching Output Test Point.
2) Tracking Control(in PB Mode) : Center Position(When this Adjustment is performed after the Drum Assembly has been replaced, set the Tracking Control so that the RF Output is Maximum).
3) Height Adjustment Screw : Flatten the RF Waveform. (Fig. C-4-2)
4) Turn(Move) the Tracking Control(in PB Mode) Clockwise and Counterclockwise.(Fig. C-4-3)
5) Check that any Drop of RF Output is uniform at the Start and End of the Waveform.

NOTE

If the adjustment is excessive or insufficient the tape will jam or fold.

Waveform Diagrams

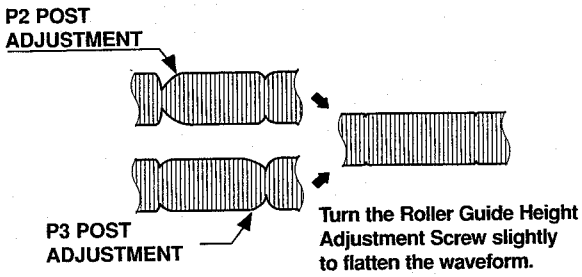


Fig. C-4-2

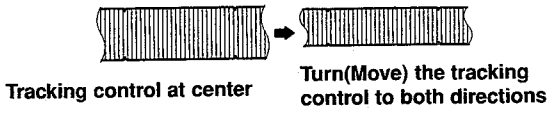
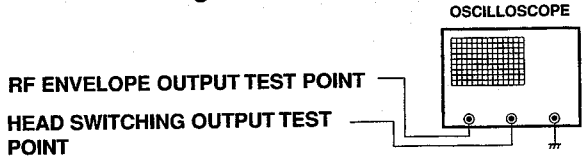


Fig. C-4-3

Connection Diagram



DECK MECHANISM ADJUSTMENT

5. Audio/Control (A/C) Head Adjustment

Purpose: To insure that the Tape passes accurately over the Audio and Control Tracks in exact Alignment in both the Record and Playback Modes.

5-1. Preliminary Adjustment (Height and Tilt Adjustment)

Perform the Preliminary Adjustment, when there is no Audio Output Signal with the Alignment Tape.

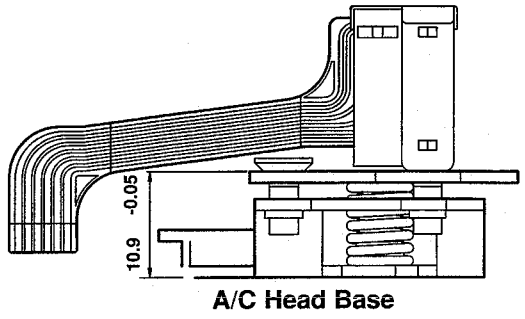
Test Equipment/ Fixture	Test Conditions (Mechanism Condition)	Adjustment Point
• Blank Tape • Screw Driver(+) Type 5mm	• Play the blank tape	• Tilt Adjustment Screw(C) • Height Adjustment Screw(B) • Azimuth Adjustment Screw(A)

Adjustment Procedure/Diagrams

1) Initially adjust the Base Assembly A/C Head as shown Fig. C-5-1 by using the Height Adjustment Screw(B).
2) Play a Blank Tape and observe if the Tape passes accurately over the A/C Head without Tape Curling or Folding.
3) If Folding or Curling is occured then adjust the Tilt Adjustment Screw(C) while the Tape is running to resemble Fig. C-5-3.
4) Reconfirm the Tape Path after Playback about 4~5 seconds.

NOTE

Ideal A/C head height occurs, when the tape runs between 0.2~0.25mm above the bottom edge of the A/C head core.



A/C Head Base

Fig. C-5-1

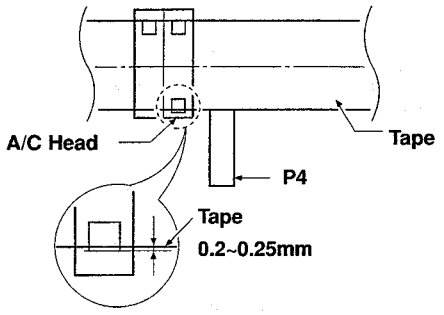
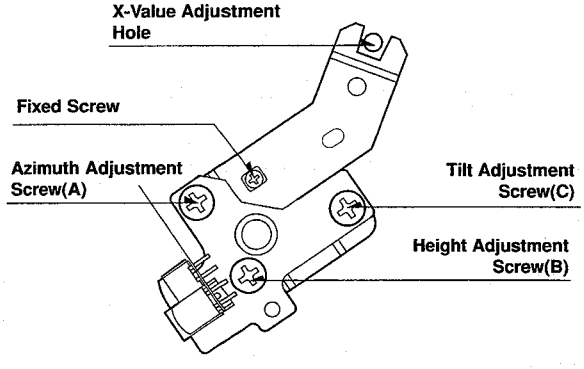


Fig. C-5-3



A/C Head Assembly

Fig. C-5-2

DECK MECHANISM ADJUSTMENT

5-2. Confirm that the Tape passes smoothly between the Take-up Guide and Pinch Roller(using a Mirror or the naked eye).

1) Afetr completing Step 5-1.(Preliminary Adjustment), check that the Tape passes around the Take-up Guide and Pinch Roller without Folding or Curling at the Top or Bottom.
   (1) If Folding or Curling is observed at the Bottom of the Take-up Guide then slowly turn the Tilt Adjustment Screw(C) in the Clockwise directioin.
   (2) If Folding or Curling is observed at the Top of it then slowly turn the Tilt Adjustment Screw(C) in the Counterclockwise direction.

NOTE:

Check the RF Envelope after adjusting the A/C Head, if the RF Waveform differs from Fig. C-5-4, performs Precise Adjustment to flat the RF Waveform.

5-3. Precise Adjustment (Azimuth adjustment)

Test Equipment/ Fixture	Connection Point	Test Conditions (Mechanism Condition)	Adjustment Point
• Oscilloscope • Alignment Tape(SP) • Screw Driver(+) Type 5mm	• Audio output jack	• Play an Alignment Tape 1KHz, 7KHz Sections	• Azimuth Adjustment Screw(A) • Height Adjustment Screw(B)

Adjustment Procedure

1) Connect the Probe of the Oscilloscope to Audio Output Jack.
2) Alternately adjust the Azimuth Adjustment Screw(A) and the Tilt Adjustment Screw(C) for Maximum Output of the 1Khz and 7Khz segments, while maintaining the flattest Envelope differential between the two Frequencies.

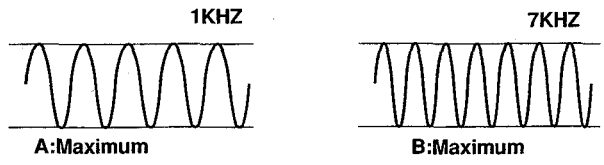
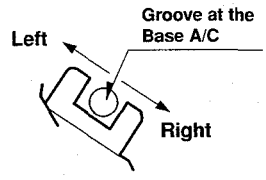


Fig. C-5-4

6. X-Value Adjustment

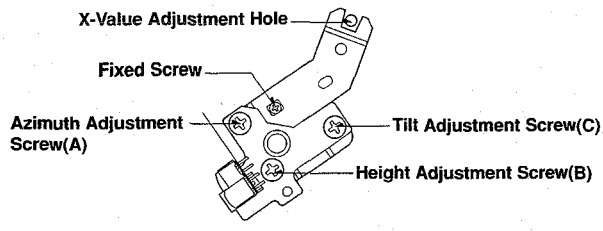
Purpose: To obtain compatibility with other VCR(VCP) Models.

Test Equipment/ Fixture	Connection Point	Test Conditions (Mechanism Condition)	Adjustment Point
• Oscilloscope • Alignment tape(SP only) • Screw Driver(+) Type 5mm	• CH-1: PB RF Envelope • CH-2: NTSC: SW 30Hz PAL: SW 25Hz • Head Swithching Output Test Point • RF Envelope Output Test Point	• Play an Alignment Tape	

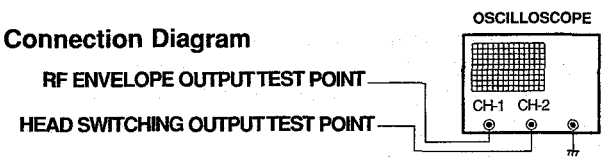
Adjustment Procedure

1) Release the Automatic Tracking to run long enough for Tracking to complete it's Cycle.
2) Loosen the Fixed Mounting Screw and move the Base Assembly A/C Head in the direction as shown in the Diagram to find the center of the peak that allows for the maximum Waveform Envelope.
   This method should allow the 31um Head to be centrally located over the 58um Tape Track.
3) Tighten the Base Assembly A/C Head mounting Screw.

Adjustment Diagram



Connection Diagram



DECK MECHANISM ADJUSTMENT

7. Adjustment after Replacing Drum Assembly (Video Heads)

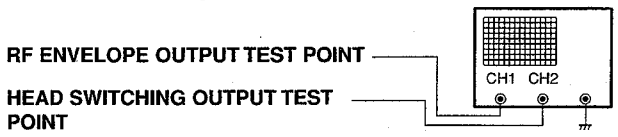
Purpose: To correct for shift in the Roller Guide and X value after replacing the Drum.

Test Equipment/ Fixture	Connection Point	Test Conditions (Mechanism Condition)	Adjustment Points
• Oscilloscope • Alignment tapes • Blank Tape • Post Height Adjusting Driver • Screw Driver(+) Type 5mm	• CH-1: PB RF Envelope • CH-2: NTSC: SW 30Hz PAL: SW 25Hz • Head Swithching Output Test Point • RF Envelope Output Test Point	• Play the blank tape • Play an alignment tape	• Guide Roller Precise Adjustment • Switching Point • Tracking Preset • X-Value

Checking/Adjustment Procedure

Play a blank tape and check for tape curling or creasing around the roller guide. If there is a problem then follow the procedure 4. "Guide Roller Height" and 5. "Audio Control(A/C) Head Adjustment".

Connection Diagram



Waveform

V1/V MAX ≦ 0.7
V2/V MAX ≦ 0.8
RF ENVELOPE OUTPUT

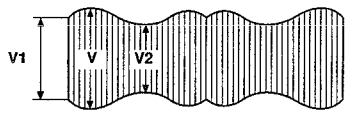


Fig. C-7

8. Check the Tape Travel after Reassembling Deck Assembly.

8-1.Check Audio and RF Locking Time during playback and after CUE or REV (FF/REW)

Test Equipment/ Fixture	Specification	Connection Points	Test Conditions (Mecanism Condition)
• Oscilloscope • Alignment tapes(with 6H 3kHz Color Bar Signal) • Stop Watch	• RF Locking Time: Less than 5 sec. • Audio Locking Time:Less than 10sec	• CH-1: PB RF Envelope • CH-2: Audio Output • RF Envelope Output Point • Audio Ouptut Jack	• Play an alignment tape (with 6H 3kHz Color Bar Signal)

Checking Procedure

Play an alignment tape then change the operating mode to CUE or REV and confirm if the unit meets the above listed specifications.

NOTES:

1) CUE is fast forward mode (FF)
2) REV is the rewind mode (REW)
3) Referenced to the Play mode

8-2.Check for tape curling or jamming

Test Equipment/ Fixture	Specification	Test Conditions (Mecanism Condition)
• T-160 Tape • T-120 Tape	• Be sure there is no tape jamming or curling at the begining, middle or end of the tape.	• Run the CUE, REV play mode at the beginning and the end of the tape.

Checking Procedure

1) Confirm that the tape runs smoothly around the roller guides, drum and A/C head assemblies while abruptly changing operating modes from Play to CUE or REV. This is to be checked at the begining, middle and end sections of the cassette.
2) Confirm that the tape passes over the A/C head assembly as indicated by proper audio reproduction and proper tape counter performance.

MAINTENANCE/INSPECTION PROCEDURE

1 Check before starting repairs

The following faults can be remedied by cleaning and oiling. Check the needed lubrication and the conditions of cleanliness in the unit.
Check with the customer to find out how often the unit is used, and then determine that the unit is ready for inspection and maintenance. Check the following parts.

Phenomenon	Inspection	Replacement	
Color beats	Dirt on full-erase head	o	F/E Head
Poor S/N, no color	Dirt on video head	o	Video Head
Vertical or Horizontal jitter	Dirt on video head Dirt on tape transport system	o	
Low volume, Sound distorted	Dirt on Audio/control head	o	A/C Head
Tape does not run. Tape is slack	Dirt on pinch roller	o	Pinch Roller Belt Capston
In Review and Unloading (off mode), the Tape is rolled up loosely.	Clutch Ass'y S27 Torque reduced	o	Clutch Assembly D33
	Cleaning Drum and transport system	Fig. C-9-3	

NOTE

If locations marked with **o** do not operate normally after cleaning, check for wear and replace.
See the EXPLODED VIEWS at the end of this manual as well as the above illustrations See the Greasing (Page 4-22) for the sections to be lubricated and greased.

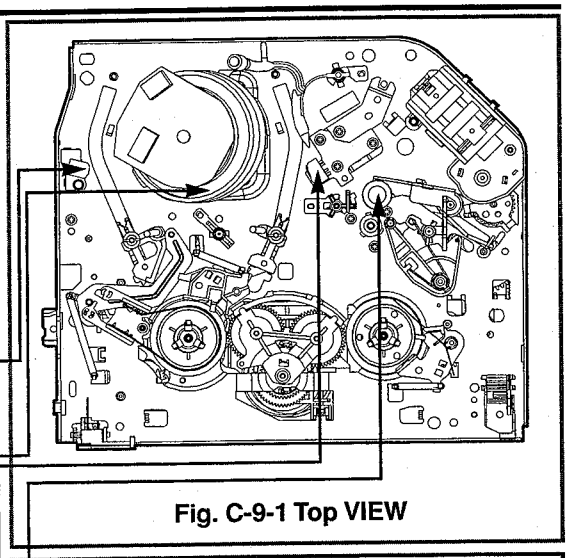


Fig. C-9-1 Top VIEW

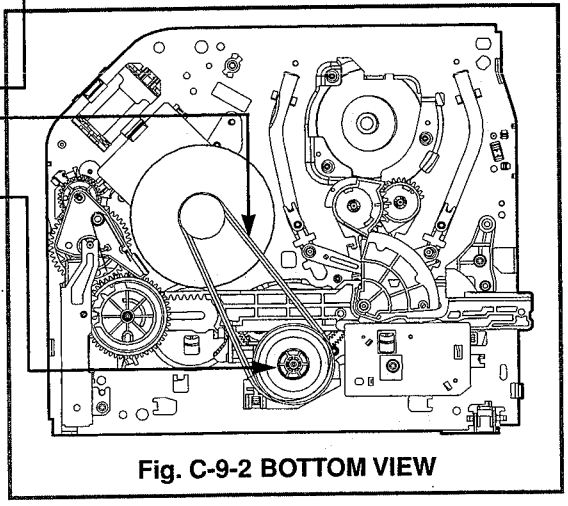


Fig. C-9-2 BOTTOM VIEW

*** No. (1)~(13) Indicates the Tape Path to be traveled from Supply Reel to Take-up Reel.**

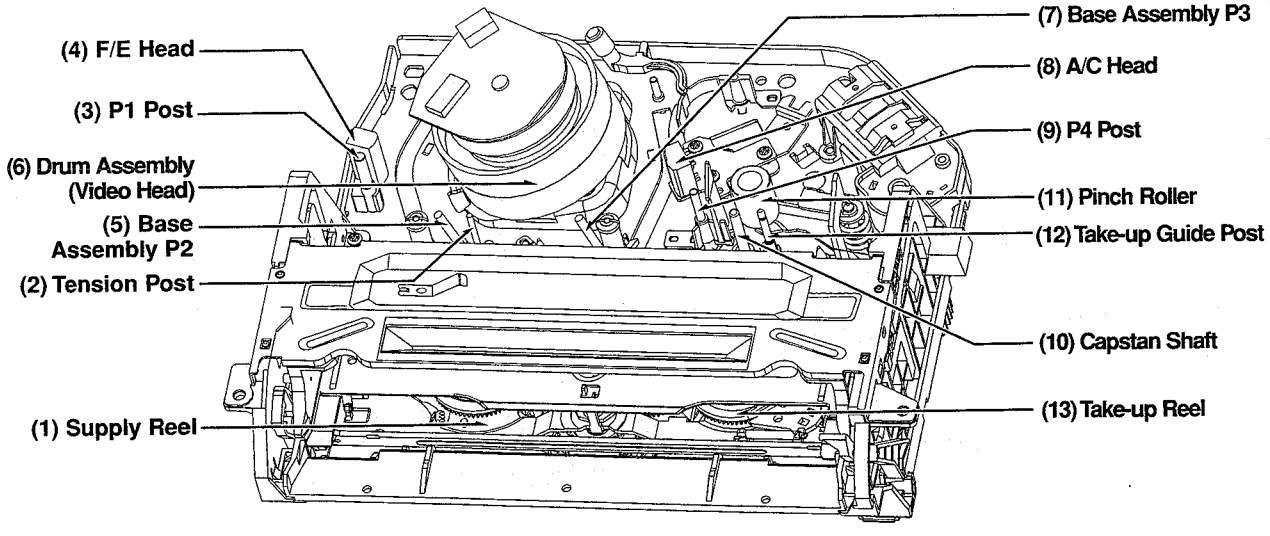


Fig. C-9-3 Tape Transport System

MAINTENANCE/INSPECTION PROCEDURE

2. Required Maintenance

The recording density of a VCR(VCP) is much higher than that of an audio tape recorder. VCR(VCP) components must be very precise, at tolerances of 1/1000mm, to ensure compatiblity with other VCRs. If any of these components are worn or dirty, the symptoms will be the same as if the part is defective. To ensure a good picture, periodic inspection and maintenance, including replacement of worn out parts and lubrication, is necessary.

3. Scheduled Maintenance

Schedules for maintenance and inspection are not fixed because they vary greatly according to the way in which the customer uses the VCR(VCP), and the environment in which the VCR(VCP) is used.
But, in general home use, a good picture will be maintained if inspection and maintenance is made every 1,000 hours. The table below shows the relation between time used and inspection period.

Table 1

When inspection is necessary / Average hours used per day	About 1 year	About 18 months	About 3 years
One hour	▼	▼	▼
Two hours	▼	▼	▼
Three hours	▼	▼	▼

4. Supplies Required for Inspection and Maintence

(1) Grease : Kanto G-311G (Blue) or equivalent
(2) Isopropyl Alcohol or equivalent
(3) Cleaning Patches
(4) Grease : Kanto G-381(Yellow) : Used only for Reel S and Reel T

5) Maintenance Procedure

5-1) Cleaning

(1) Cleaning video head
First use a cleaning tape. If the dirt on the head is too stubborn to remove by tape, use the cleaning patch. Coat the cleaning patch with Isopropyl Alcohol. Touch the cleaning patch to the head tip and gently turn the head(rotating cylinder) right and left.
(Do not move the cleaning patch vertically. Make sure that only the buckskin on the cleaning patch comes into contact with the head. Otherwise, the head may be damaged.)
Thoroughly dry the head. Then run the test tape. If Isopropyl Alcohol remains on the video head, the tape may be damaged when it comes into contact with the head surface.
(2) Clean the tape transport system and drive system, etc, by wiping with a cleaning patch wetted with Isporopyl Alcohol.

NOTES:

① It is the tape transport system which comes into contact with the running tape. The drive system consists of those parts which moves the tape.
② Make sure that during cleaning you do not touch the tape transport system with the tip of a screw driver and no that force is that would cause deforming or damage applied to the system.

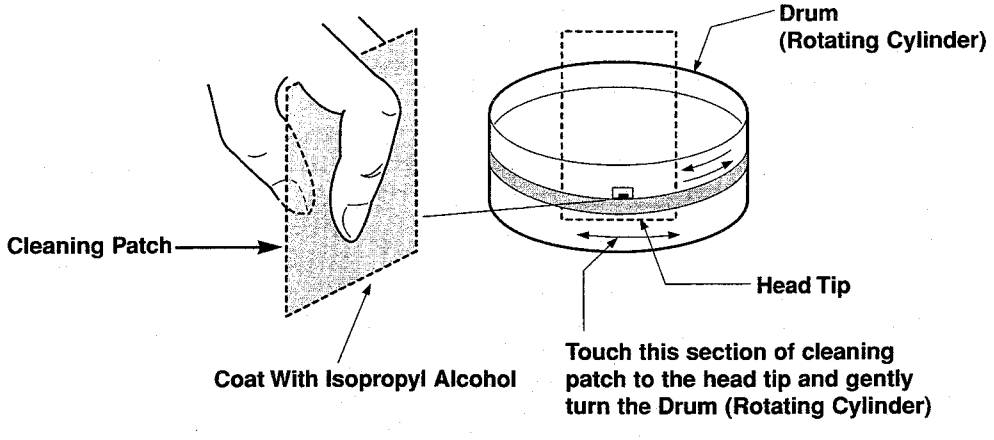


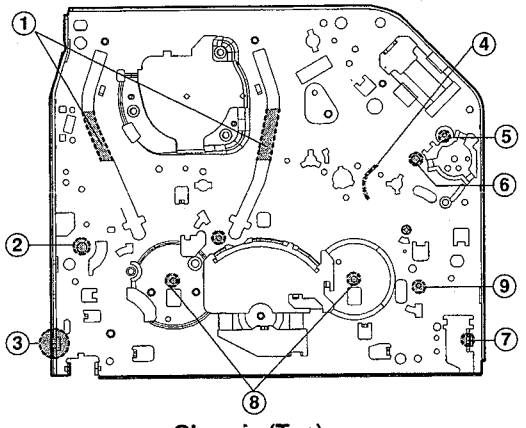
Fig. C-9-4

5-2) Greasing

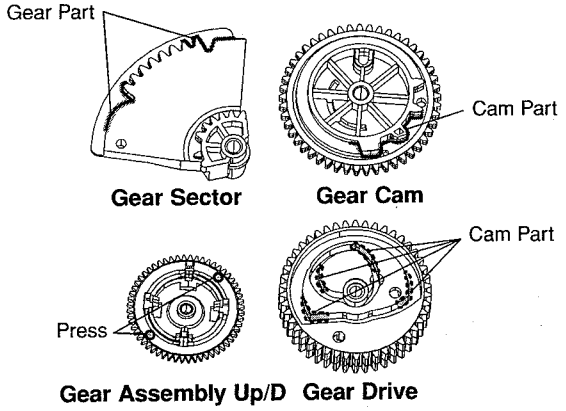
(1) Greasing guidelines
Apply grease, with a cleaning patch. Do not use excess grease. It may come into contact with the tape transport or drive system. Wipe any excess and clean with clean ing patch wetted in Isopropyl Alcohol.

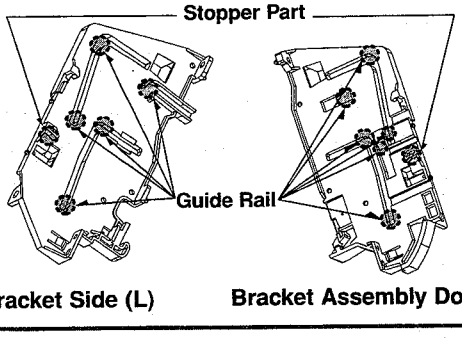
NOTE:Greasing Points

1) Loading Path Inside & Top side
2) Base Tension Boss inside Hole
3) Arm Assembly F/L "U" Groove
4) Arm Take-up Rubbing Section
5) L/D Motor Worm Wheel Part
6) Shaft
7) Arm Assembly F/L of Burning Inside Hole
8) Reel S, T Shaft (G381:Yellow)
9) Brake T Groove



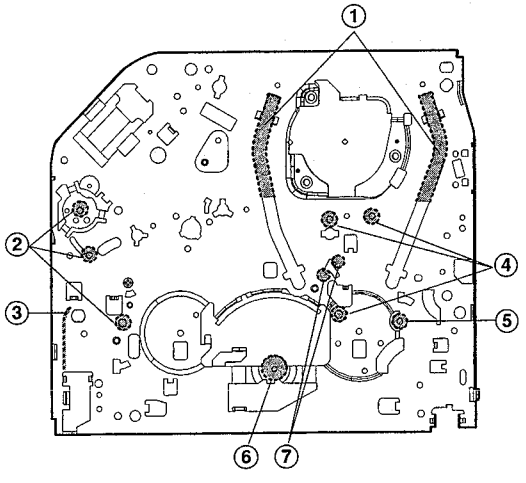
Chassis (Top)



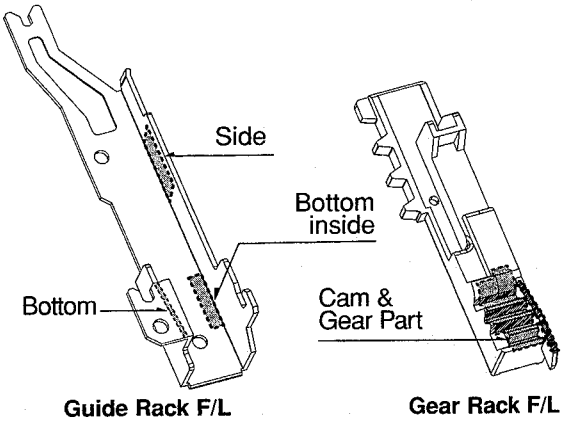


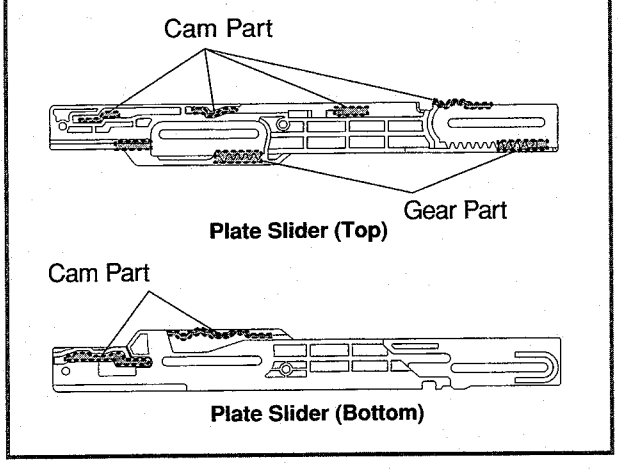
(2) Periodic greasing
Grease specified locations every 5,000 hours.

1) Loading Path Inside & Top side
2) Shaft
3) Gear Rack F/L Moving Section
4) Shaft
5) Lever Tension Groove
6) Clutch Assembly D33 Shaft
7) Brake "S" Rubbing Section



Chassis (Bottom)

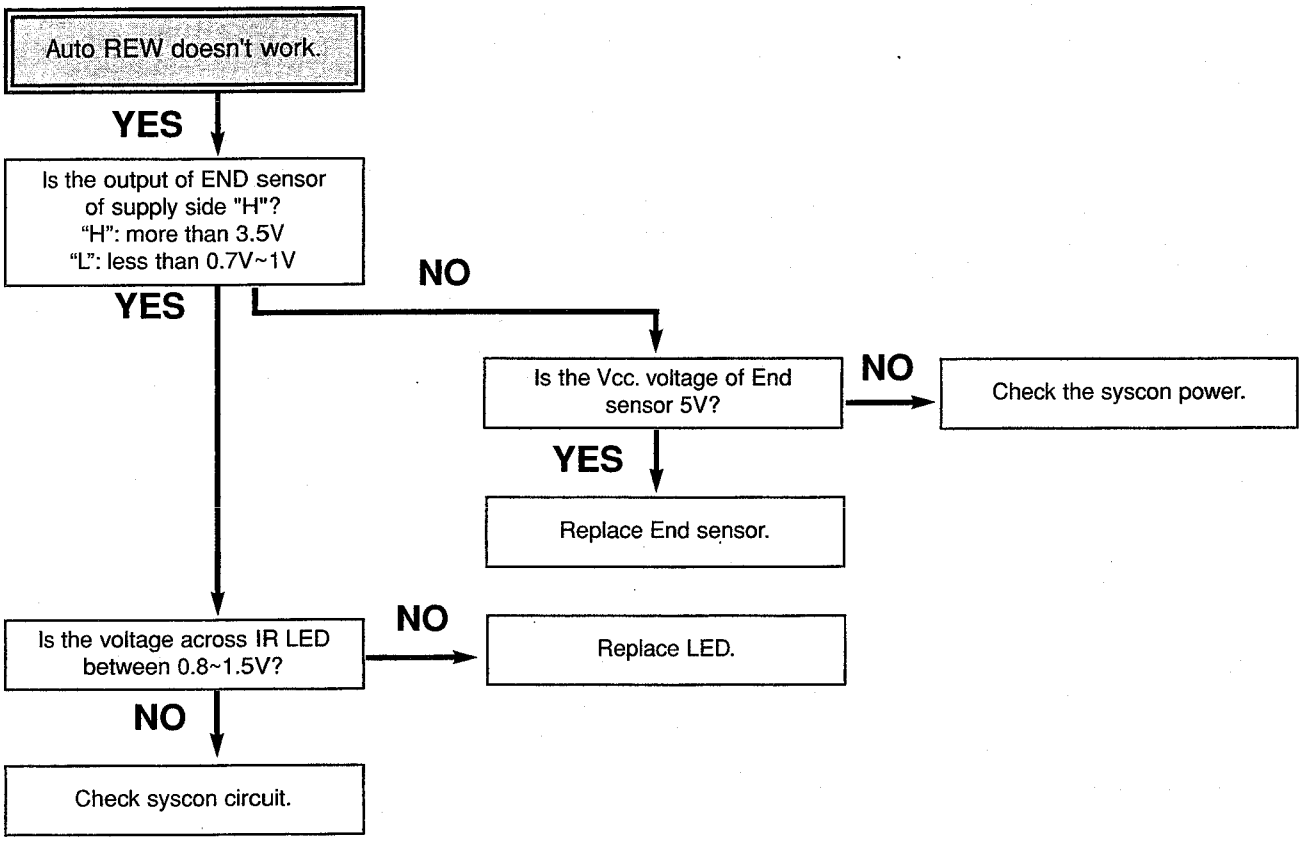




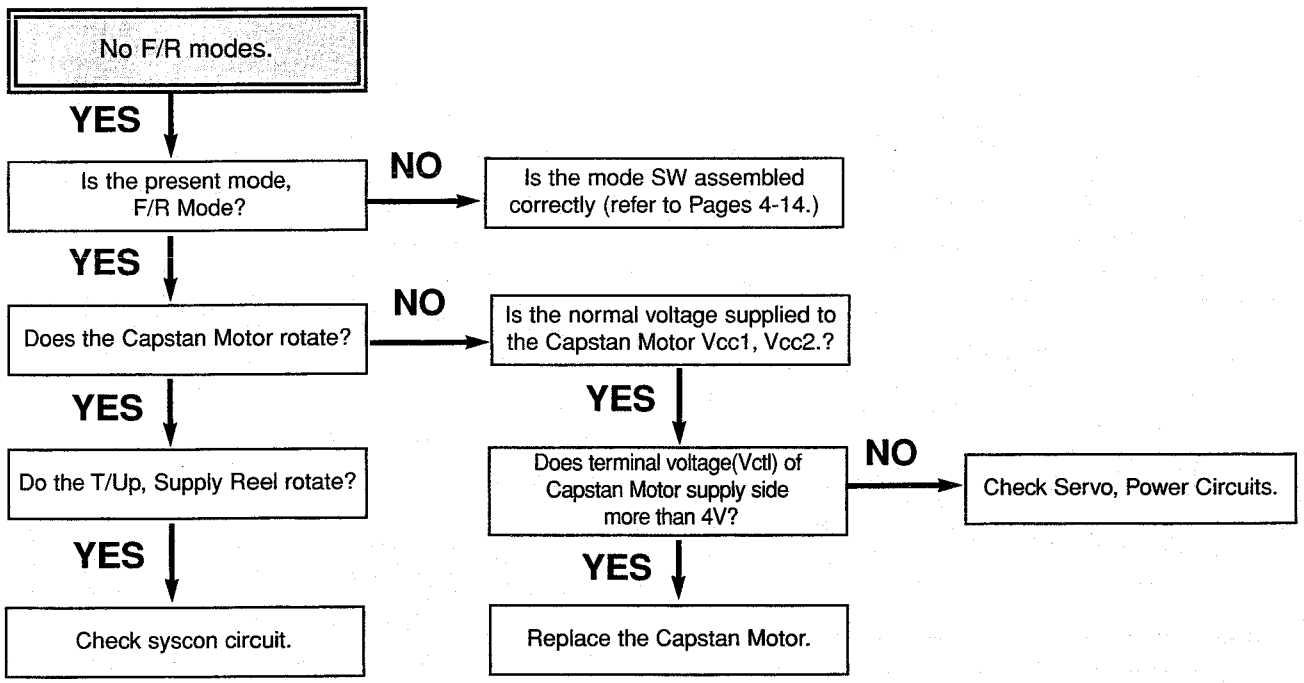
MECHANISM TROUBLESHOOTING GUIDE

1.Deck Mechanism

A.

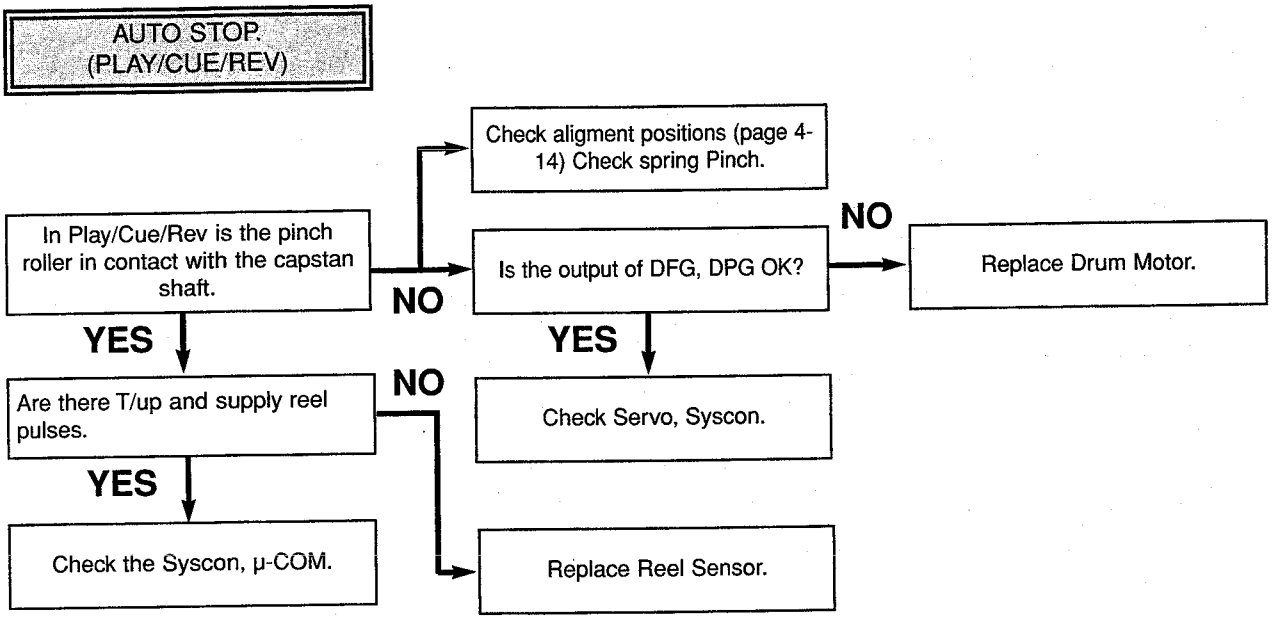


B.

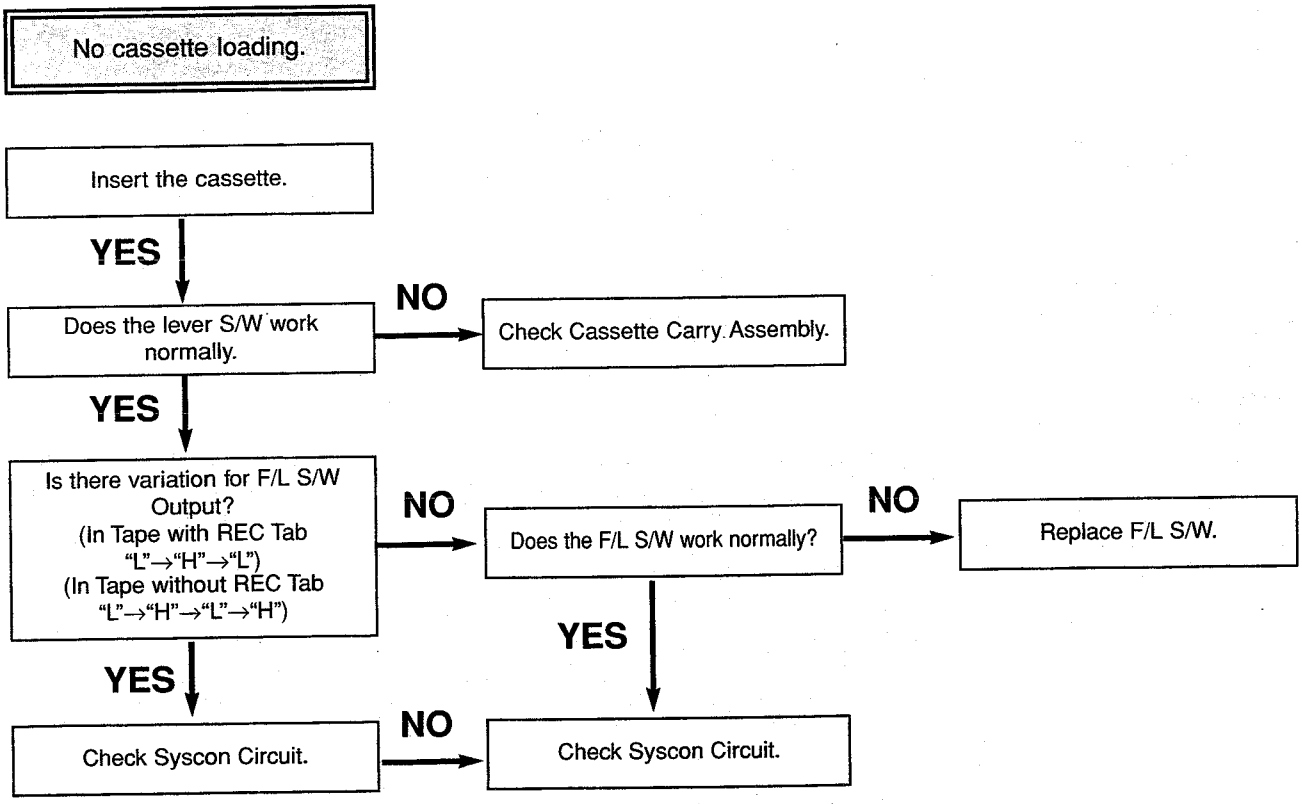


MECHANISM TROUBLESHOOTING GUIDE

C.

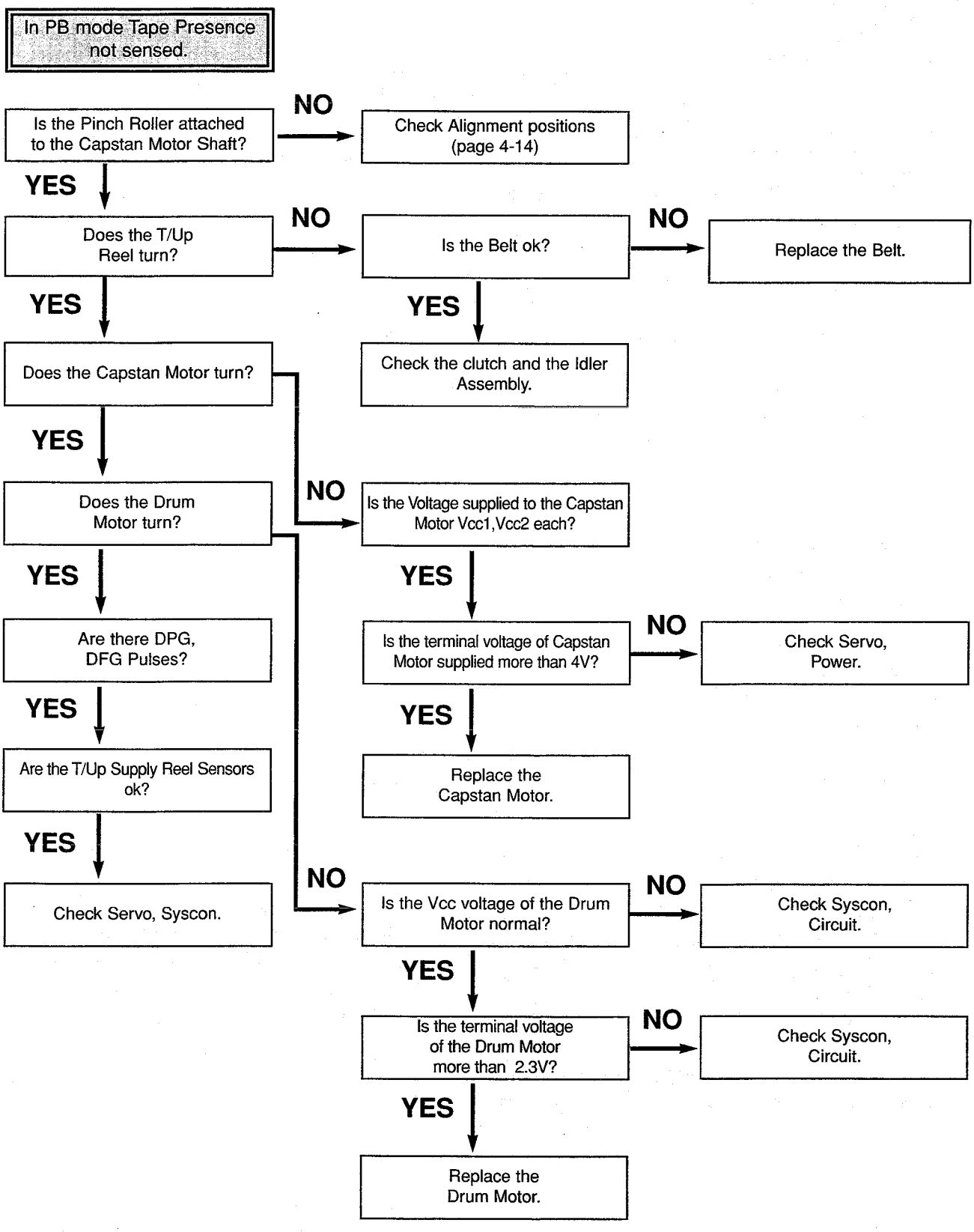


D.



MECHANISM TROUBLESHOOTING GUIDE

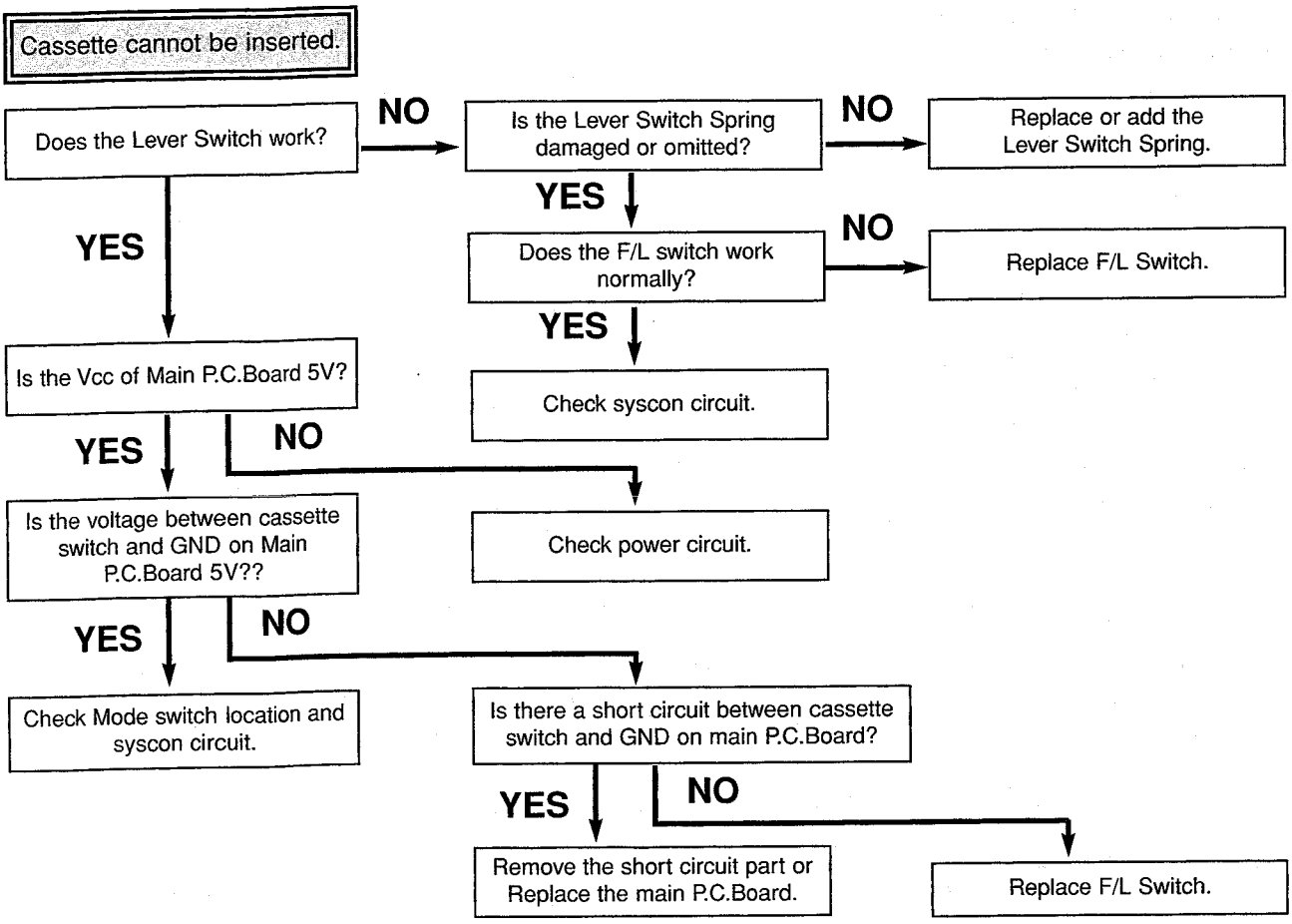
E.



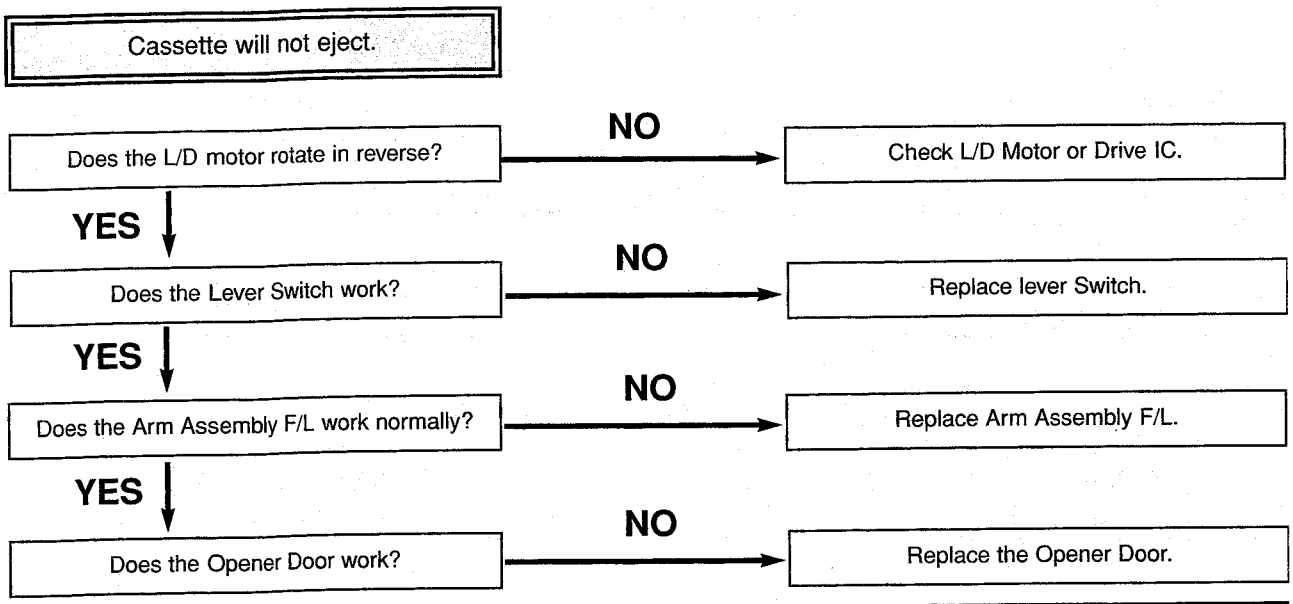
MECHANISM TROUBLESHOOTING GUIDE

2. Front Loading Mechanism

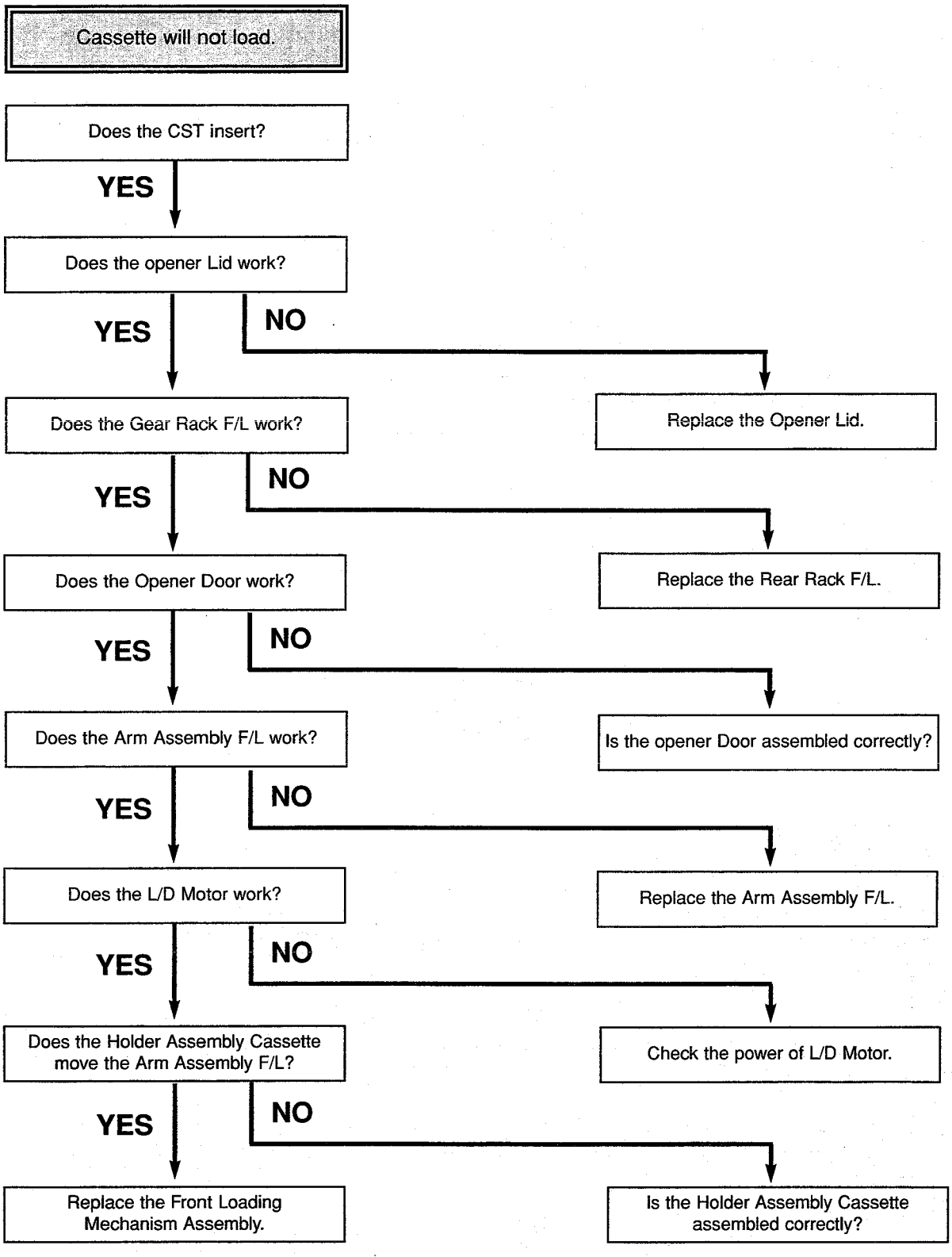
A.



B.

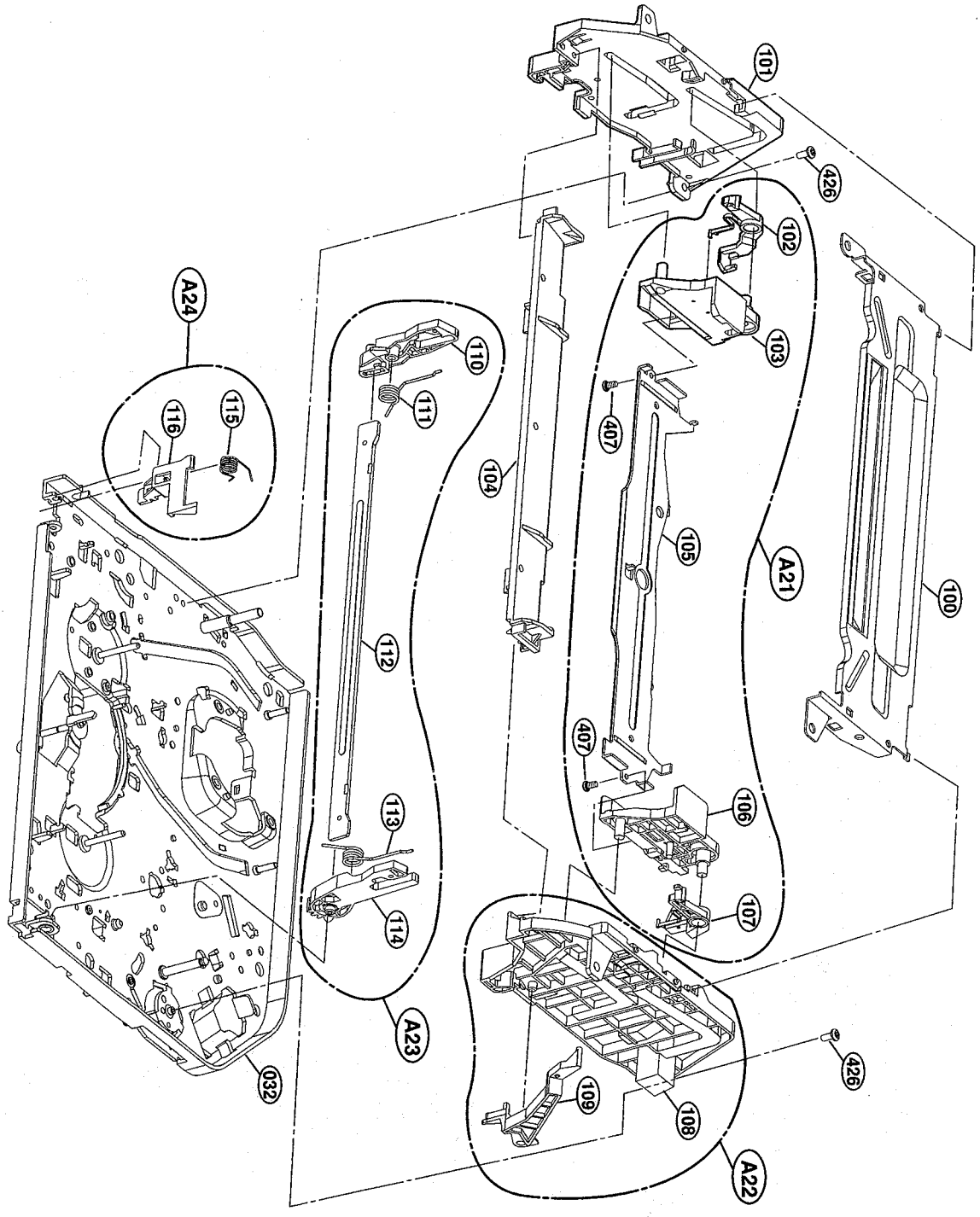


C.


Cassette will not load.
Does the CST insert?
YES
Does the opener Lid work?
YES
NO
Replace the Opener Lid.
Does the Gear Rack F/L work?
YES
NO
Replace the Rear Rack F/L.
Does the Opener Door work?
YES
NO
Is the opener Door assembled correctly?
Does the Arm Assembly F/L work?
YES
NO
Replace the Arm Assembly F/L.
Does the L/D Motor work?
YES
NO
Check the power of L/D Motor.
Does the Holder Assembly Cassette move the Arm Assembly F/L?
YES
NO
Is the Holder Assembly Cassette assembled correctly?
Replace the Front Loading Mechanism Assembly.

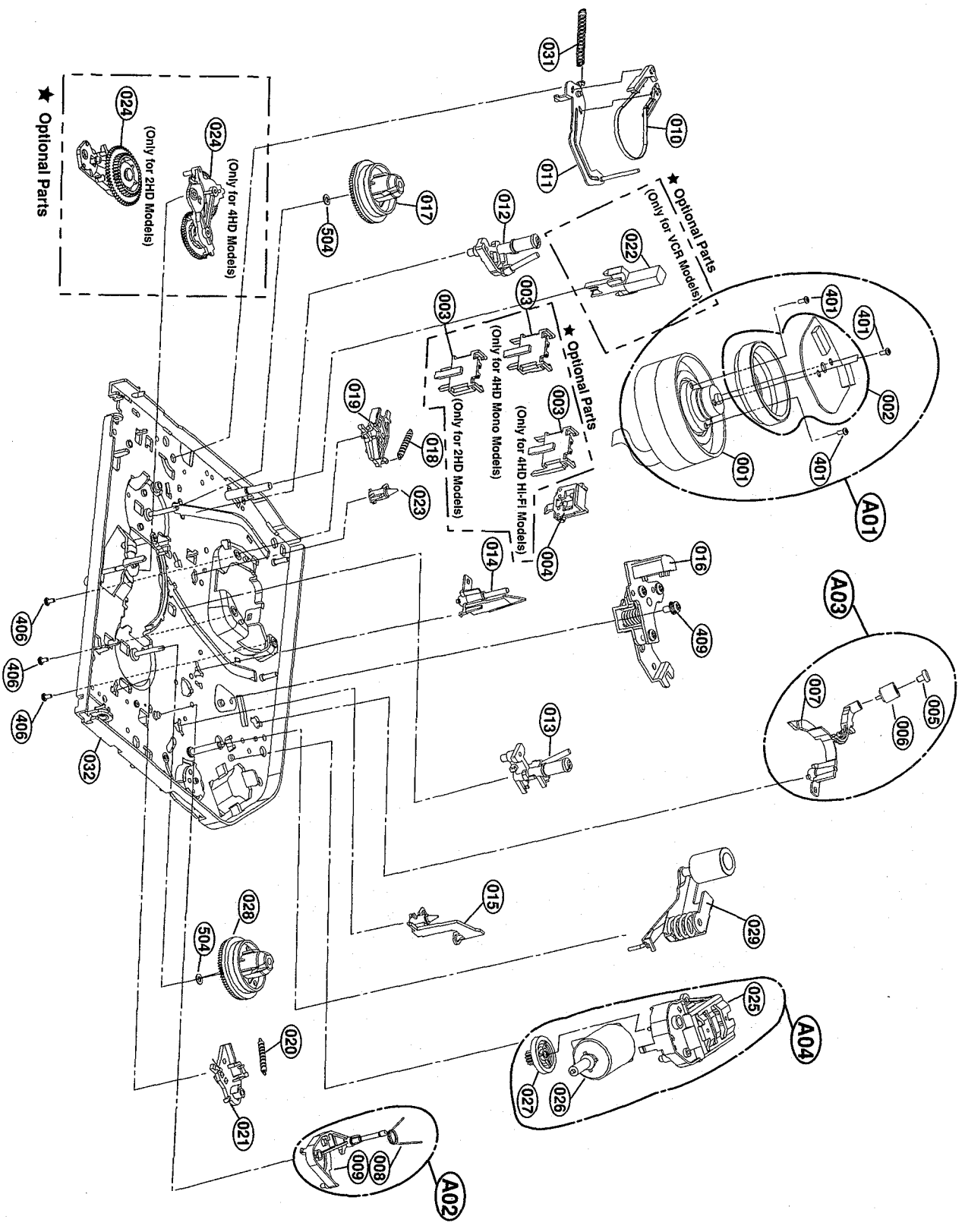
EXPLODED VIEWS

1. Front Loading Mechanism Section



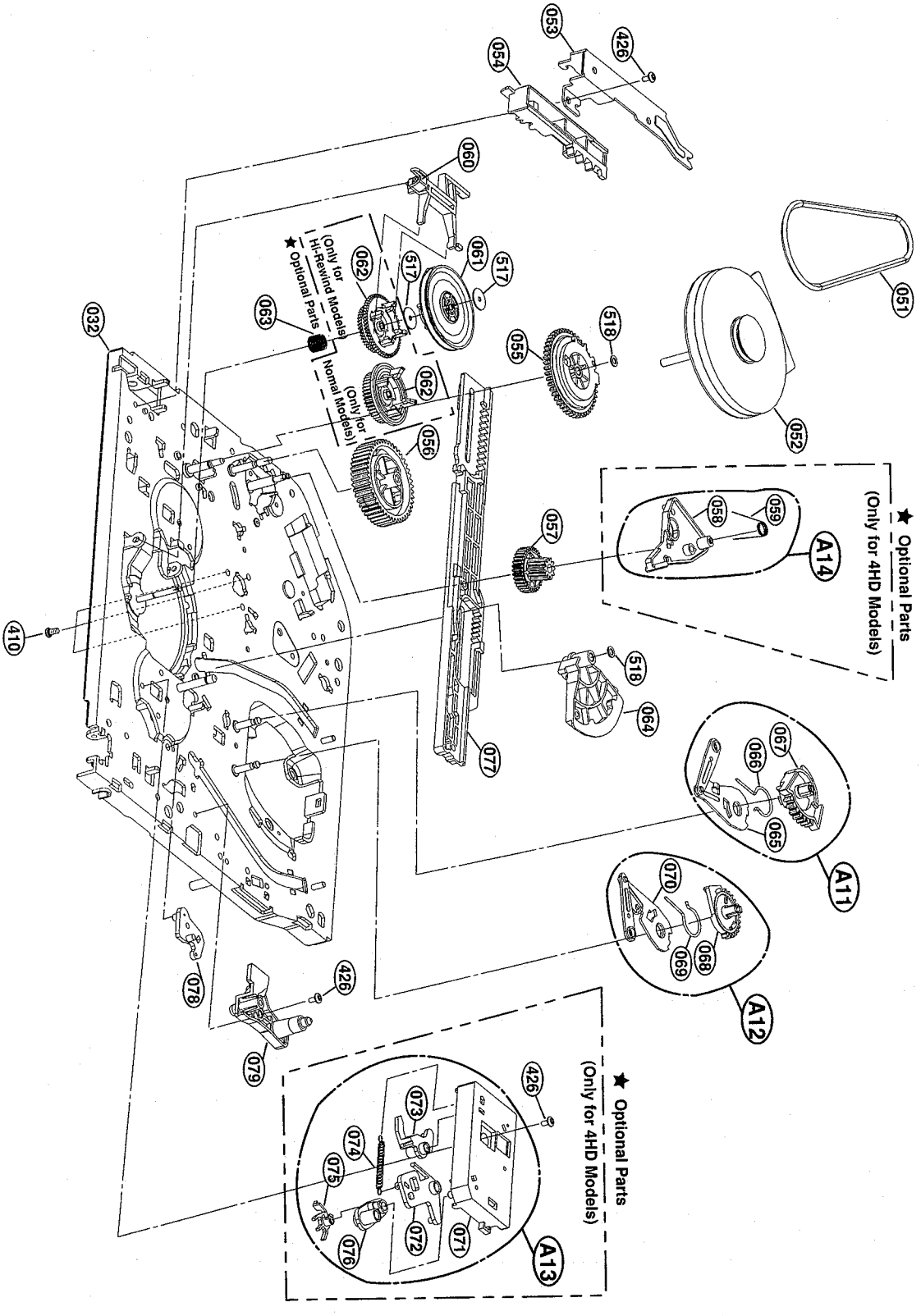
EXPLODED VIEWS

2. Moving Mechanism Section(1)



EXPLODED VIEWS

3. Moving Mechanism Section(2)



MEMO

SECTION 5 REPLACEMENT PARTS LIST

· Mechanical Section

RUN DATE : 99.10.13
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
				ASSEMBLY PARTS SECTION		
		A00	6721R-0152A	DECK ASSY	D33 (4HF, PAL, JOG)	
		A01	6723R-0103D	DRUM ASSY	D33-6CH PAL (5P6)	
	OR	A01	6723R-D103D	DRUM(CIRC) ASSY	D33-6CH PAL (5P6)	
	OR	A02	4261R-0012A	ARM ASSY!	T/UP	
		A02	4261R-0012B	ARM ASSY!	T/UP	
	OR	A03	4261R-0003A	ARM ASSY!	CLEANER	
		A03	4261R-0015A	ARM ASSY!	CLEANER	
		A04	4811R-0011A	BRACKET ASSY	L/D MOTOR	
		A11	4470R-0028A	GEAR	ASSY P3	
		A12	4470R-0026A	GEAR	ASSY P2	
	OR	A13	4811R-0012A	BRACKET ASSY	JOG	
		A13	4811R-0012B	BRACKET ASSY	JOG	
	OR	A14	4421R-0005B	BRAKE ASSY	CAPSTAN	
		A14	4421R-0005C	BRAKE ASSY	CAPSTAN	
		A21	4931R-0015A	HOLDER ASSY	CST	
		A22	4811R-0014A	BRACKET ASSY	DOOR	
		A23	4261R-0010A	ARM ASSY!	F/L	
		A24	4510R-0019A	LEVER	ASSY SWITCH	
				PARTS SECTION		
		001	6723R-0106D	DRUM ASSY	SUB D33-6CH PAL (5P6)	
		002	4680RB0004A	MOTOR(MECH)	DRUM F2OEL-81 SANKYO D33	
	OR	002	4680RB0005A	MOTOR(MECH)	DRUM GVD-033A LGEC D33	
		003	4930R-0108A	HOLDER	FPC(6CH)	
	OR	004	5006R-0014A	CAP	FPC	
		004	5006R-0020A	CAP	FPC	
		008	4970R-0043A	SPRING	T/UP	
		009	4260R-0011B	ARM	T/UP	
		010	4770R-0004A	BAND (MECH)	ASSY TENSION	
		011	4261R-0004A	ARM ASSY!	TENSION	
		012	3041R-0003A	BASE ASSY	P2	
	OR	012	3041R-0003B	BASE ASSY	P2 (D/C)	
		013	3041R-0004A	BASE ASSY	P3	
	OR	013	3041R-0004B	BASE ASSY	P3(D/C)	
		014	3041R-0007A	BASE ASSY	P4	
		015	5870R-0001A	OPENER	LID	
	OR	016	3041R-0005A	BASE ASSY	A/C HEAD(LGEC)	
		016	3041R-0005E	BASE ASSY	A/C HEAD(LGEC)	
		017	4408R-0001A	REEL	S	
		018	4970R-0054A	SPRING	SB	
		019	4421R-0003A	BRAKE ASSY	S	
		020	4970R-0053A	SPRING	TB	
		021	4421R-0004A	BRAKE ASSY	T	
		022	523-833B	HEAD	FE D33 . LG C&D/ST	
	OR	022	523-833C	HEAD (CIRC)	FE VTR-1X2ERS11-135 D33 TDK	
		023	4980R-0010A	SUPPORTER	CST	
		024	4261R-0009A	ARM ASSY!	IDLER-J	
		025	4810R-0053A	BRACKET	L/D MOTOR	NSP

RUN DATE : 99.10.13
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		026	4681R-0007A	MOTOR ASSY	L/D	NSP
		027	4470R-0025A	GEAR	WHEEL	NSP
		028	4408R-0002A	REEL	T	
		029	4261R-0011A	ARM ASSY!	PINCH (MOLD BEARING)	
	OR	029	4261R-0011B	ARM ASSY!	PINCH (MOLD BEARING)	
		031	4970R-0052A	SPRING	TENSION	
	OR	032	3141R-0002A	CHASSIS ASSY	D33	NSP
		032	3141R-0002B	CHASSIS ASSY	D33 (D-33K)	NSP
		051	4400R-0005A	BELT	CAPSTAN	
	OR	052	4680RA0002A	MOTOR(MECH)	CAPSTAN F2QSB SANKYO D33	
		052	4680RA0003A	MOTOR(MECH)	CAPSTAN GVC-033A LGEC D33	
		053	4974R-0018A	GUIDE	RACK F/L	
		054	4470R-0037A	GEAR	RACK F/L	
		055	4470R-0033A	GEAR	DRIVE	
		056	4470R-0032A	GEAR	CAM	
		057	4470R-0036B	GEAR	CONNECT	
		058	4420R-0005A	BRAKE	CAPSTAN	
		059	4970R-0059A	SPRING	CAPSTAN	
		060	4510R-0025A	LEVER	F/R	
		061	4265R-0002A	CLUTCH ASSY	D33	
		062	4470R-0044A	GEAR	ASSY UP/D	
		063	4970R-0051A	SPRING	UP/D	
		064	4470R-0034A	GEAR	SECTOR	
		065	4510R-0016A	LEVER	P3	NSP
		066	4970R-0046A	SPRING	L/D	NSP
		067	4470R-0029A	GEAR	P3	NSP
		068	4470R-0027A	GEAR	P2	NSP
		069	4970R-0046A	SPRING	L/D	NSP
		070	4510R-0015A	LEVER	P2	NSP
		071	4810R-0054A	BRACKET	JOG	NSP
		072	4510R-0017A	LEVER	JOG	NSP
		074	4970R-0049A	SPRING	JOG	NSP
		075	4470R-0031A	GEAR	JOG	NSP
		076	4260R-0017A	ARM	JOG	NSP
		077	3300R-0157A	PLATE	SLIDER	
		078	4510R-0022A	LEVER	TENSION	
		079	3040R-0018A	BASE	TENSION	
		100	3301R-0029A	PLATE ASSY	TOP	
		101	4810R-0056A	BRACKET	SIDE(L)	
		102	4510R-0023A	LEVER	STOPPER(L)	NSP
		103	4930R-0099A	HOLDER	SIDE(L)	NSP
		104	4974R-0019A	GUIDE	CST	
		105	4930R-0098A	HOLDER	CST	NSP
		106	4930R-0100A	HOLDER	SIDE(R)	NSP
		107	4510R-0024A	LEVER	STOPPER(R)	NSP
		108	4810R-0055A	BRACKET	SIDE(R)	NSP
		109	5870R-0002A	OPENER	DOOR	NSP
		110	4260R-0018A	ARM	F/L(L)	NSP
		111	4970R-0055A	SPRING	F/L(L)	NSP
		112	3070R-0001A	BODY	F/L	NSP
		113	4970R-0056A	SPRING	F/L(R)	NSP
		114	4260R-0019A	ARM	F/L(R)	NSP
		115	4970R-0050A	SPRING	SWITCH	
		116	4510R-0020A	LEVER	SWITCH	

RUN DATE : 99.10.13
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
				SCREW		
		401	1MPK0261418	PAN HEAD MACHINE SCREW +,-	+ D2.6 L4.0 MSWR3 / FZY	
		402	1MPK0261718	SCREW MACHINE,PAN HEAD	+,- D2.6 L5.0 MSWR3/FZY	
		406	1MEC0302018	PAN HEAD MACHINE SCREW S/W +	D 3.0 L 6.0 MSWR3/FZY	
		407	1APF0201718	SCREW TAP TITE(B),PAN HEAD	+ D2.0 L5.0 MSWR3/FZY	
		409	1MGC0302418	PAN HEAD MACN SCREW S/P WASH +	D 3.0 L 8.0 MSWR3/FZY	
		410	1APF0262218	SCREW TAP TITE(B),PAN HEAD	+ D2.6 L6.8 MSWR3/FZY	
		426	1MPC0302018	PAN HEAD MACHINE SCREW +!	D 3.0 L 6.0 MSWR3/FZY	
				NUT, WASHER		
		504	354-001B	WASHER	P.S D3.1XD6X0.5T	
		517	1WZZR-0004B	WASHER	STOPPER	
		518	1WZZR-0004A	WASHER	STOPPER	

· Cabinet & Main Frame Section

RUN DATE : 99.10.13
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
				ASSEMBLY PARTS SECTION		
		A43	3721R-F077K	PANEL ASSY,FRONT[NORMAL PARTS]	AH999P 1AS1L	
		A46	3501R-1396B	BOARD ASSY	AH999P,SCART,MAIN	
		A49	3501R-1397A	BOARD ASSY	AH999 TIMER(W F/V)	
				PARTS SECTION		
		250	3110R-0128A	CASE	TOP	
		260	3210R-0023B	FRAME	MAIN (VII-PJT, 60HR)	NSP
		275	4930R-0163A	HOLDER	DIGITRON(100X25,HIFI)	NSP
		280	3720R-F058E	PANEL	FRONT(AH999P 1AS1L)	NSP
		283	3580R-0014P	DOOR	CST(AH999P 1AS1L)	
		284	442-681A	SPRING	DOOR	
		300	6410RCHV02A	POWER CORD	H03VVH2-F2 X 0.75MM FILTER VOL	
		320	3721R-D023E	PANEL ASSY,DISTRIBUTOR[NORMAL	AF-PAL HI-FI -2SCART - PREMERE	
		323	3111R-0089B	CASE ASSY	PRE-AMP (PBSB-SH)	
		330	3550R-0210A	COVER	BOTTOM(LARGE)	
				SCREW		
		452	353-051A	SCREW	SPECIAL	
		457	353-051E	SCREW	SPECIAL (3X12)	
		462	353-136A	SCREW	SPECIAL(FBK) (353S353A)	

· Packing Accessory Section

RUN DATE : 99.10.13
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		801	3835RP0043U	INSTRUCTION ASSY	AH999P 3GL1L	
		802	3890R-H580A	BOX	AH999P 3GL1L SW3-A 0.880 2 FLX	
		803	3920R-0055A	PACKING	LV-90/60 0.02 78 EPS 5 1 1	
	OR	804	292-053A	BAG	SOFT(VCP)	NSP
		804	3858R-0006A	SHEET	ROLL(W630XL300MX0.5T)	NSP
		806	861-033B	CABLE SET ASSY	RF-CABLE ASSY FTZ (D.D)	
		808	534-002C	BATTERY	1.5V AAM UM-3 LOL 1PAIR	
		810	861-505K	CABLE SET ASSY	RF-CABLE ASSY PAL HI-FI FTZ	
		811	564-017B	PLUG ASSY	PHONO CORD 1WAY (YL)	
		812	564-018B	PLUG ASSY	PHONO CORD 2WAY (RD/WH)	

· Remote Control Section

RUN DATE : 99.10.13
NSP: Not Service Part

S	AL	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		900	6711R1P013Z	REMOTE CONTROLLER ASSY	N1	

• Electrical Section

RUN DATE : 99.10.13

CAUTION: The * marks in the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. Before replacing any of these components, read carefully the SAFETY PRECAUTIONS and SERVICING PRECAUTIONS in the manual. Do not degrade the safety of the unit through improper servicing.

Tolerance

Symbol	C	J	K	M	N	Z	P	A
%	±2	±5	±10	±20	±30	+80 −20	+100 −10	+100 −10

CC, CJ, CK: Capacitor, Ceramic
CE: Capacitor, Electrolytic
CQ: Capacitor, Polyester

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
			CAPACITOR	
		C101	624-088H	PCX2 0.1UF/275VAC R T/P
		C102	624-088H	PCX2 0.1UF/275VAC R T/P
		C103	624-082F	CE 68UF/400V SHLVN
		C105	0CQ1031Y519	0.01UF D 630V K PE NI TP
		C106	624-087B	HIGH-VOL 100P/1KV SMPS SAMHWA
		C109	0CE336BH638	33UF KME 25V M FM5 TP5
		C111	0CN223AK948	0.022UF 50V Z F TA26 S
		C112	0CG3320U630	3300 PF 400V M E R(NK,AD,SD)
		C113	0CG2210U610	220 PF 400V M B R(NK,AD,SD)
		C114	0CQ4732K409	0.047UF S 50V J PE TP
		C115	624-085D	CE 47UF/50V KME (SMPS)
		C116	0CE108BF638	1000UF KME TYPE 16V M FM5 TP 5
		C117	0CE477CF638	470UF SHL TYPE 16V M FM5 TP 5
		C118	0CE2276D638	220M SMS 10V M FM5 TP(5)
		C119	624-085D	CE 47UF/50V KME (SMPS)
		C120	0CE477BH638	470UF KME 25V M FM5 TP5
		C121	624-082G	CE 470UF/25V SHL(10*12.5)T/P
		C122	0CN223AK948	0.022UF 50V Z F TA26 S
		C123	0CE4764C638	47M SRA 6.3V M FM5 TP(5)
		C124	0CE2264F638	22M SRA 16V M FM5 TP(5)
		C151	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C152	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C153	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C155	0CN1040K948	0.1UF 50V Z F TA26 D
		C156	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C157	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C159	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C220	0CN223AK948	0.022UF 50V Z F TA26 S
		C303	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C304	0CE2274C638	220M SRA 6.3V M FM5 TP(5)
		C306	0CN1030F678	0.01M 16V M Y TA26
		C307	0CX2700K408	27P 50V J SL TA26
		C309	0CN3310K518	330P 50V K B TA26
		C310	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C311	0CN1810K518	180P 50V K B TA26
		C312	0CX2200K408	22P 50V J SL TP26
		C315	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C316	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C317	0CN1030F678	0.01M 16V M Y TA26
		C318	0CE2254K638	2.2M SRA 50V M FM5 TP(5)
		C320	0CN1050K948	1UF 50V Z F TA26 D
		C322	0CE4764C638	47M SRA 6.3V M FM5 TP(5)
		C323	0CE4764C638	47M SRA 6.3V M FM5 TP(5)

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C325	0CN1050K948	1UF 50V Z F TA26 D
		C326	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C327	0CN1050K948	1UF 50V Z F TA26 D
		C328	0CN4730K948	0.047M 50V Z F TA26
		C329	0CN1030F678	0.01M 16V M Y TA26
		C330	0CN1030F678	0.01M 16V M Y TA26
		C331	0CE2274C638	220M SRA 6.3V M FM5 TP(5)
		C332	0CN1030F678	0.01M 16V M Y TA26
		C334	0CE2274C638	220M SRA 6.3V M FM5 TP(5)
		C336	0CN1030F678	0.01M 16V M Y TA26
		C337	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C338	0CN223AK948	0.022UF 50V Z F TA26 S
		C339	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C340	0CN3330K518	0.033UF 50V K B TA26
		C341	0CN223AK948	0.022UF 50V Z F TA26 S
		C342	0CN1030F678	0.01M 16V M Y TA26
		C343	0CN4730K948	0.047M 50V Z F TA26
		C344	0CN223AK948	0.022UF 50V Z F TA26 S
		C346	0CE2274C638	220M SRA 6.3V M FM5 TP(5)
		C348	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C353	0CX2200K408	22P 50V J SL TP26
		C354	0CE2274C638	220M SRA 6.3V M FM5 TP(5)
		C355	0CN1030F678	0.01M 16V M Y TA26
		C358	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C363	0CX3900K408	39P 50V J SL TA26
		C367	0CN223AK948	0.022UF 50V Z F TA26 S
		C368	0CN1020K518	1000P 50V K B TA26
		C369	0CN223AK948	0.022UF 50V Z F TA26 S
		C370	0CN1810K518	180P 50V K B TA26
		C371	0CN223AK948	0.022UF 50V Z F TA26 S
		C372	0CX6800K408	68P 50V J SL TA26
		C3A1	0CN223AK948	0.022UF 50V Z F TA26 S
		C3B1	0CN3330K518	0.033UF 50V K B TA26
		C401	0CE4764C638	47M SRA 6.3V M FM5 TP(5)
		C402	0CN223AK948	0.022UF 50V Z F TA26 S
		C403	0CN1040K948	0.1UF 50V Z F TA26 D
		C405	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C406	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C408	0CQ1532K409	0.015UF S 50V J PE TP
		C410	0CN1040K948	0.1UF 50V Z F TA26 D
		C412	0CN1040K948	0.1UF 50V Z F TA26 D
		C413	0CN1030F678	0.01M 16V M Y TA26
		C414	0CQ1032K409	0.01UF S 50V J PE TP
		C415	0CE2264F638	22M SRA 16V M FM5 TP(5)
		C416	0CN2220F668	2200P 16V M X TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C417	0CN1220F668	1200P 16V M X TA26
		C418	0CQ1532K409	0.015UF S 50V J PE TP
		C419	0CQ1032K409	0.01UF S 50V J PE TP
		C420	0CE4765K618	47UF SR,SV 50V M FL TP 5
		C421	0CQ2232L559	0.022UF S 63V K PP NI TP5
		C423	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C424	0CN1040K948	0.1UF 50V Z F TA26 D
		C431	0CN1030F678	0.01M 16V M Y TA26
		C466	0CE3354K638	3.3M SRA 50V M FM5 TP(5)
		C4A1	0CE2264F638	22M SRA 16V M FM5 TP(5)
		C500	0CE4775C618	470UF SR,SV 6.3V M FL TP 5
		C501	0CN1040K948	0.1UF 50V Z F TA26 D
		C502	0CE4764C638	47M SRA 6.3V M FM5 TP(5)
		C503	0CN1040K948	0.1UF 50V Z F TA26 D
		C504	0CE2274C638	220M SRA 6.3V M FM5 TP(5)
		C505	0CE4764C638	47M SRA 6.3V M FM5 TP(5)
		C506	0CN223AK948	0.022UF 50V Z F TA26 S
		C507	0CN1040K948	0.1UF 50V Z F TA26 D
		C508	0CN1040K948	0.1UF 50V Z F TA26 D
		C509	0CN223AK948	0.022UF 50V Z F TA26 S
		C512	0CN1810K518	180P 50V K B TA26
		C513	0CN1040K948	0.1UF 50V Z F TA26 D
		C514	0CC1800K415	18P 50V J NP0 TS
		C515	0CC1500K415	15P 50V J NP0 TS
		C516	0CN223AK948	0.022UF 50V Z F TA26 S
		C518	0CC3300K415	33P 50V J NP0 TP
		C519	0CC3900K415	39P 50V J NPO TP
		C520	0CN1020K518	1000P 50V K B TA26
		C521	0CN223AK948	0.022UF 50V Z F TA26 S
		C522	0CN1030F678	0.01M 16V M Y TA26
		C524	0CE3364F638	33M SRA 16V M FM5 TP(5)
		C525	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C526	0CE4764H638	47M SRA 25V M FM5 TP(5)
		C527	0CN1810K518	180P 50V K B TA26
		C528	0CN1030F678	0.01M 16V M Y TA26
		C529	0CN1040K948	0.1UF 50V Z F TA26 D
		C530	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C532	0CN223AK948	0.022UF 50V Z F TA26 S
		C533	0CN1020K518	1000P 50V K B TA26
		C534	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C535	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C536	0CN1030F678	0.01M 16V M Y TA26
		C537	0CN1030F678	0.01M 16V M Y TA26
		C540	0CQ3332K409	0.033UF S 50V J PE TP
		C541	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C542	0CN6810K518	680P 50V K B TA26
		C543	0CN2220F668	2200P 16V M X TA26
		C544	0CQ4732K409	0.047UF S 50V J PE TP
		C545	0CN1040K948	0.1UF 50V Z F TA26 D
		C546	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C551	0CQ3332K409	0.033UF S 50V J PE TP
		C552	0CN1030F678	0.01M 16V M Y TA26
		C556	0CN1030F678	0.01M 16V M Y TA26
		C557	0CN1030F678	0.01M 16V M Y TA26
		C561	0CE4764C638	47M SRA 6.3V M FM5 TP(5)
		C564	0CN3310K518	330P 50V K B TA26
		C567	0CN1020K518	1000P 50V K B TA26
		C570	0CC1800K415	18P 50V J NP0 TS
		C571	0CC1800K415	18P 50V J NP0 TS
		C574	0CN1020K518	1000P 50V K B TA26
		C575	0CN1020K518	1000P 50V K B TA26
		C576	0CC1400K415	14PF 50V J NP0 TR

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C577	0CC1400K415	14PF 50V J NP0 TR
		C581	0CN1030F678	0.01M 16V M Y TA26
		C582	0CN1030F678	0.01M 16V M Y TA26
		C588	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C589	0CN8200K518	82PF 50V K B TA26
		C596	0CN223AK948	0.022UF 50V Z F TA26 S
		C5F1	0CN1020K518	1000P 50V K B TA26
		C5F3	0CN1020K518	1000P 50V K B TA26
		C5F4	0CN1040K948	0.1UF 50V Z F TA26 D
		C5F7	0CE4764C638	47M SRA 6.3V M FM5 TP(5)
		C5F8	0CE4764C638	47M SRA 6.3V M FM5 TP(5)
		C5S1	0CX4300K408	43P 50V J SL TA26
		C5S2	0CN223AK948	0.022UF 50V Z F TA26 S
		C701	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C702	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C704	0CE4764C638	47M SRA 6.3V M FM5 TP(5)
		C705	0CN1030F678	0.01M 16V M Y TA26
		C706	0CE477CF638	470UF SHL TYPE 16V M FM5 TP 5
		C707	0CN1030F678	0.01M 16V M Y TA26
		C710	0CX4300K408	43P 50V J SL TA26
		C712	0CX5R60K508	5.6PF 50V K SL TA26
		C713	0CE4764C638	47M SRA 6.3V M FM5 TP(5)
		C714	0CN1030F678	0.01M 16V M Y TA26
		C716	0CE4764C638	47M SRA 6.3V M FM5 TP(5)
		C751	0CN1030F678	0.01M 16V M Y TA26
		C752	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C753	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C754	0CN1030F678	0.01M 16V M Y TA26
		C755	0CQ1032K409	0.01UF S 50V J PE TP
		C756	0CQ1032K409	0.01UF S 50V J PE TP
		C757	0CQ1032K409	0.01UF S 50V J PE TP
		C758	0CQ1032K409	0.01UF S 50V J PE TP
		C759	0CN1030F678	0.01M 16V M Y TA26
		C760	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C761	0CE3354K638	3.3M SRA 50V M FM5 TP(5)
		C762	0CN1040K948	0.1UF 50V Z F TA26 D
		C763	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C764	0CN1040K948	0.1UF 50V Z F TA26 D
		C765	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C766	0CN1030F678	0.01M 16V M Y TA26
		C767	0CX5600K408	56P 50V J SL TA26
		C768	0CX5600K408	56P 50V J SL TA26
		C769	0CC0300K015	3P 50V C NP0 TS
		C770	0CC0300K015	3P 50V C NP0 TS
		C771	0CQ3921N409	0.0039U 100V J POLY TP
		C772	0CQ3921N409	0.0039U 100V J POLY TP
		C773	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C774	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C775	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C776	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C7M2	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C7M3	0CX4300K408	43P 50V J SL TA26
		C7V1	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C7V2	0CN1050K948	1UF 50V Z F TA26 D
		C7V3	0CC1200K415	12P 50V J NP0 TS
		C7V4	0CC1200K415	12P 50V J NP0 TS
		C7V5	0CQ5632K409	0.0560UF S 50V J PE TP
		C7V6	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C7V7	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C7V8	0CE1054K638	1.0M SRA/SS50V M FM5 TP(5)
		C801	0CN1040K948	0.1UF 50V Z F TA26 D
		C804	0CN1040K948	0.1UF 50V Z F TA26 D

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		C805	0CN1040K948	0.1UF 50V Z F TA26 D
		C806	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C807	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C808	0CN1040K948	0.1UF 50V Z F TA26 D
		C809	0CN1040K948	0.1UF 50V Z F TA26 D
		C810	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C811	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C813	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C814	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C815	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C816	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C817	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C818	0CE4754K638	4.7M SRA 50V M FM5 TP(5)
		C819	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C820	0CQ6822K409	6800PF S 50V J PE TP
		C821	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C822	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C823	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C824	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C825	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C826	0CQ6822K409	6800PF S 50V J PE TP
		C827	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C828	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C829	0CN1030F678	0.01M 16V M Y TA26
		C830	0CN1040K948	0.1UF 50V Z F TA26 D
		C831	0CN1030F678	0.01M 16V M Y TA26
		C832	0CE4764C638	47M SRA 6.3V M FM5 TP(5)
		C835	0CE4744K638	0.47M SRA 50V M FM5 TP(5)
		C901	0CN1020K518	1000P 50V K B TA26
		C902	0CE477CF638	470UF SHL TYPE 16V M FM5 TP 5
		C903	0CN1020K518	1000P 50V K B TA26
		C904	0CN1020K518	1000P 50V K B TA26
		C905	0CX1000K408	10P 50V J SL TA26
		C906	0CX1000K408	10P 50V J SL TA26
		C908	0CN1020K518	1000P 50V K B TA26
		C911	0CN1020K518	1000P 50V K B TA26
		C912	0CE477CF638	470UF SHL TYPE 16V M FM5 TP 5
		C918	0CN1020K518	1000P 50V K B TA26
		C923	0CN1020K518	1000P 50V K B TA26
		C924	0CN1020K518	1000P 50V K B TA26
		C941	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C942	0CE1054K636	1.0U SRA 50V M FM5 BP TP(D)
		C948	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C949	0CN1050K948	1UF 50V Z F TA26 D
		C950	0CE1064F638	10M SRA 16V M FM5 TP(5)
		C951	0CE4764F638	47M SRA/SS 16V M FM5 TP(5)
		C952	0CN1030F678	0.01M 16V M Y TA26
		C953	0CN8200K518	82PF 50V K B TA26
		C957	0CN4730K948	0.047M 50V Z F TA26
		C958	0CN4730K948	0.047M 50V Z F TA26
		C959	0CN8200K518	82PF 50V K B TA26
		C960	0CX6800K408	68P 50V J SL TA26
		ZD902	0CX3900K408	39P 50V J SL TA26
DIODE				
		BD101	0DD160000DA	S1WBA60(1A 600V) SHIDENKEN
	OR	D102	0DD010009CA	EG01CW(R-FORM 5MM) TP SANKEN
		D102	0DD221009AA	ERA22-10 KFLB,TP ,R T/P,FUJI
		D104	0DD010009AC	EU01W(R-FORM) TP SANKEN
		D105	0DD010009AC	EU01W(R-FORM) TP SANKEN
		D106	0DR440150AA	RK44(LF015-305) BK SANKEN DO41
		D107	0DR180209AA	ERA18-02KFRB TP FUJI DO204AL 2

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		D108	0DD010009AC	EU01W(R-FORM) TP SANKEN
		D109	0DD400000AD	RU4YXLF(015-305) M20 SANKEN
		D151	0DD133009AA	1SS133 DETECT,SW TP
	OR	D152	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D152	0DR104009AB	RL104 R. TP GULF SEMICONDUCTOR
	OR	D154	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D154	0DR104009AB	RL104 R. TP GULF SEMICONDUCTOR
	OR	D155	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D155	0DR104009AB	RL104 R. TP GULF SEMICONDUCTOR
		D301	0DD133009AA	1SS133 DETECT,SW TP
		D502	0DD133009AA	1SS133 DETECT,SW TP
		D509	0DD133009AA	1SS133 DETECT,SW TP
	OR	D751	0DD400309AB	IN4003A(1SR35-200A)5M/M TP ROH
		D751	0DR104009AB	RL104 R. TP GULF SEMICONDUCTOR
		DJ04	0DD133009AA	1SS133 DETECT,SW TP
		DJ06	0DD133009AA	1SS133 DETECT,SW TP
		DJ15	0DD133009AA	1SS133 DETECT,SW TP
LEVEL METER				
		DIG5F1	6302R2N003C	HNV-09SS19 SAMSUNG UNIVERSAL
FUSE				
	OR	F101	585-011C	T 1.6A 250V S506
		F101	585-011T	1600MA 250 V 5.2X20 CY/GL SEMK
FILTER				
		L102	616-145H	SHT LFS2020V4-04350
	OR	L102	616-145J	BUJEON V-04350
IC				
		F103	0IRH100000B	ICP-N10 T104 TP IC DETACT
		IC101	0ISK615300A	STR-G6153T 5PIN FM CUT BK PWM
		IC103	0IKE431000A	KIA431 3 PIN TP
	OR	IC103	0ISS431000A	KA431AZ (LM431AZ)
		IC301	0ISA715910A	LA71591M 100QFP BK AVCP 1CHIP
	OR	IC501	0IGS397748B	GMS3977RAA48F 100QFP BK MICOM
		IC501	0IHI397710A	HD3977RC10F 100QFP BK MICOM AF
		IC502	0ISS308200A	KA3082 10-SIP BK MOTOR DRIVE
		IC503	0IAL241600B	AT24C16-10PC 8D EEPROM 16K
		IC504	0IKE703100A	KIA7031P 3P 3.1V RESET(TAPING)
	OR	IC504	0ISS753100A	KA7531Z TO-92 TP 3.1V RESET
		IC505	0IKE704200B	KIA7042P 3P 4.2V RESET(TAPING)
	OR	IC505	0ISS754200A	KA7542Z RESET TO92 TP 4.2V
		IC5F1	0IMA125100A	MN12510 QFP44 FLP DRIVE
		IC751	0IIT340700A	MSP3407D 52DIP BK A2 ONLY PAL
		IC7V1	0ISA747930A	LC74793/JM DIP24S BK VPS+PDC
		IC801	0IPH960500A	TDA9605H QFP44 BK HIFI AMP+HIF
		IC901	0IRH763500A	BH7635S DIP24 BK CANAL S/W
JACK				
		JK5F1	572-034D	PIN JPJ1022-01-040 (YL)
		JK5F2	572-034C	PIN JPJ1022-01-030 (WH)
		JK5F3	572-034B	PIN JPJ1022-01-020 (RED)
		JK902	572-036H	BJP 03-01-G BAEEUN 2 ANGLE WH-
COIL				
*		71R	636-004C	BEAD CORE BFS3550R2FD8,R T/P
	OR	B6908RA	!	BEAD CORE BFS3550R2FD8,R T/P

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		BD5F1	636-004C	BEAD CORE BFS3550R2FD8,R T/P
		L103	633-088G	CHOCK(22MH) TP 5MM
		L104	633-088G	CHOCK(22MH) TP 5MM
		L105	0LA1000K018	100M K 2.3X3.4 L5 TP
	OR	L301	0LR0102K0P5	LF7.5N OEL 10UH 10% TP 4.8X4.0
		L302	0LA0562K018	56M K 2.3X3.4 L5 TP
		L303	0LA0332K018	33M K 2.3X3.4 L5 TP
		L304	0LR1000K0P5	LF7.5N OEL 100UH 10% TP 4.8X4.
		L308	0LA0122K018	12M K 2.3X3.4 L5 TP
		L309	0LR1000K0P5	LF7.5N OEL 100UH 10% TP 4.8X4.
		L310	636-004C	BEAD CORE BFS3550R2FD8,R T/P
		L401	0LA0821K018	8.2M K 2.3X3.4 L5 TP
		L402	0LR6801J045	6800U J 6X7 L5 TP
	OR	L405	0LR0102K0P5	LF7.5N OEL 10UH 10% TP 4.8X4.0
		L502	0LR1000K0P5	LF7.5N OEL 100UH 10% TP 4.8X4.
		L505	0LR1000K0P5	LF7.5N OEL 100UH 10% TP 4.8X4.
		L506	635-027C	EL0405RA SKI150G-3 K-TDK 15UH
		L507	0LA1000K018	100M K 2.3X3.4 L5 TP
		L5F1	0LA1000K018	100M K 2.3X3.4 L5 TP
		L5F2	0LA1000K018	100M K 2.3X3.4 L5 TP
		L5S1	0LA0332K018	33M K 2.3X3.4 L5 TP
		L701	0LR1000K0P5	LF7.5N OEL 100UH 10% TP 4.8X4.
	OR	L702	0LR0102K0P5	LF7.5N OEL 10UH 10% TP 4.8X4.0
	OR	L703	0LR0102K0P5	LF7.5N OEL 10UH 10% TP 4.8X4.0
		L704	0LA0821K018	8.2M K 2.3X3.4 L5 TP
	OR	L705	0LR0102K0P5	LF7.5N OEL 10UH 10% TP 4.8X4.0
		L706	0LA0122K018	12M K 2.3X3.4 L5 TP
		L752	0LR1000K0P5	LF7.5N OEL 100UH 10% TP 4.8X4.
		L753	0LR1000K0P5	LF7.5N OEL 100UH 10% TP 4.8X4.
		L754	0LR6801J045	6800U J 6X7 L5 TP
		L755	0LR6801J045	6800U J 6X7 L5 TP
		L7V1	0LR1000K0P5	LF7.5N OEL 100UH 10% TP 4.8X4.
		L801	0LR1000K0P5	LF7.5N OEL 100UH 10% TP 4.8X4.
		L802	0LR1000K0P5	LF7.5N OEL 100UH 10% TP 4.8X4.
		L901	0LA1000K018	100M K 2.3X3.4 L5 TP
		L902	0LA1000K018	100M K 2.3X3.4 L5 TP
		L903	0LA0101K018	1.0M K 2.3X3.4 L5 TP
		L904	0LA1000K018	100M K 2.3X3.4 L5 TP
		L905	636-004C	BEAD CORE BFS3550R2FD8,R T/P
		L906	0LA1000K018	100M K 2.3X3.4 L5 TP
		L907	636-004C	BEAD CORE BFS3550R2FD8,R T/P
		L911	0LA1000K018	100M K 2.3X3.4 L5 TP
		L912	0LA1000K018	100M K 2.3X3.4 L5 TP
		L914	0LA1000K018	100M K 2.3X3.4 L5 TP
		L916	0LA1000K018	100M K 2.3X3.4 L5 TP
		L924	0LA1000K018	100M K 2.3X3.4 L5 TP
		L926	0LA1000K018	100M K 2.3X3.4 L5 TP
		L941	0LR1000K0P5	LF7.5N OEL 100UH 10% TP 4.8X4.
		TL401	633-032P	BIAC OSC 1 CHIP 5V[KS-75M] KSE
LED				
		LD5F1	0DL112000AJ	DL-11S2RNS(SUPER,RED,03)KOC
		LD5R1	0DL531100AB	SM5311 BK AUK YELLOW-GREEN A
CONNECTOR				
		PMK03	561-843L	TUC-P12P-B1,TAIKO
		PMKK04	561-843L	TUC-P12P-B1,TAIKO
CIRCUIT BOARD ASSEMBLY				
		PBM00	6871R-1396B	AH999P,SCART,MAIN

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		PBT00	6871R-1397A	AH99,TIMER
TRANSFORMER				
		T101	642-023M	S/W TRANS EER2828 WIDE X-PJT
TRANSISTOR				
		Q151	0TR320309AA	KTC3203-Y (KTC2120) TP KEC 10P
		Q152	0TR320309AA	KTC3203-Y (KTC2120) TP KEC 10P
		Q153	0TR280400AA	KTC2804-Y BK KEC TO126
		Q154	0TR319809AC	KTC3198-TP-BL (KTC1815)KEC
		Q155	0TR103009AF	KRA103M-TP (KRA2203) KEC
		Q156	0TR320309AA	KTC3203-Y (KTC2120) TP KEC 10P
		Q157	0TR103009AF	KRA103M-TP (KRA2203) KEC
		Q158	0TR126809BA	KTA1268-BL TP KEC
	OR	Q158	0TR709009AE	KSA709C-Y TP SAMSUNG T0-92
		Q159	0TR127309AA	KTA1273-TP-Y (KTA966A)KEC
		Q160	0TR101009AF	KRC101M(TO92M),4.7-4.7,KEC
		Q161	0TR319909AF	KTC3199-BL MINI TP KEC
		Q162	0TR127309AA	KTA1273-TP-Y (KTA966A)KEC
		Q164	0TR127309AA	KTA1273-TP-Y (KTA966A)KEC
		Q165	0TR101009AF	KRC101M(TO92M),4.7-4.7,KEC
		Q301	0TR319909AF	KTC3199-BL MINI TP KEC
		Q302	0TR319909AF	KTC3199-BL MINI TP KEC
		Q303	0TR126709AC	KTA1267-GR MINI TP KEC
		Q304	0TR319909AF	KTC3199-BL MINI TP KEC
		Q305	0TR126709AC	KTA1267-GR MINI TP KEC
		Q3A1	0TR319909AF	KTC3199-BL MINI TP KEC
		Q3A2	0TR319909AF	KTC3199-BL MINI TP KEC
		Q401	0TR126709AC	KTA1267-GR MINI TP KEC
		Q402	0TR126709AC	KTA1267-GR MINI TP KEC
		Q403	0TR319909AF	KTC3199-BL MINI TP KEC
		Q404	0TR319909AF	KTC3199-BL MINI TP KEC
		Q405	0TR320309AA	KTC3203-Y (KTC2120) TP KEC 10P
		Q501	0TR319909AF	KTC3199-BL MINI TP KEC
		Q503	0TR126709AC	KTA1267-GR MINI TP KEC
		Q514	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q515	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q5R1	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q5S2	0TR319909AF	KTC3199-BL MINI TP KEC
		Q5W1	0TR103009AE	KRC103M-TP (KRC1203) KEC
		Q701	0TR126709AC	KTA1267-GR MINI TP KEC
RESISTOR				
		FR02	0RF0471Q619	4.7 OHM 1/4 W (3.4) 5% TR
		R101	614-007R	2.7 OHM 2 W 5% TR RWR
		R102	0RS1003K619	100K OHM 2 W 5% TR
		R103	0RD0821F608	8.2 1/6W 5 TA26
		R104	0RS5602K619	56KOHM 2 W 5% TR
		R109	0RS0350K619	0.35 OHM 2 W 5% TR
		R114	0RD1003F608	100K 1/6W 5 TA26
		R116	0RD3300F608	330 1/6W 5 TA26
		R117	0RD2201F608	2.2K 1/6W 5 TA26
		R118	0RD1001F608	1.0K 1/6W 5 TA26
		R119	0RN3301F408	3.3K 1/6W 1 TA26
		R120	0RN2701F408	2.70K 1/6W 1% TA26
		R121	0RD1800F608	180 1/6W 5 TA26
		R151	0RD1201F608	1.2K 1/6W 5 TA26
		R152	0RD1201F608	1.2K 1/6W 5 TA26
		R154	0RD1001F608	1.0K 1/6W 5 TA26
		R155	0RD2702F608	27K 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R156	0RD1002F608	10K 1/6W 5 TA26
		R157	0RD1001F608	1.0K 1/6W 5 TA26
		R158	0RD2700F608	270 1/6W 5 TA26
		R159	0RD3300F608	330 1/6W 5 TA26
		R161	0RD2700F608	270 1/6W 5 TA26
		R162	0RD3300F608	330 1/6W 5 TA26
		R164	0RD1202F608	12K 1/6W 5 TA26
		R165	0RD1202F608	12K 1/6W 5 TA26
		R166	0RD2201F608	2.2K 1/6W 5 TA26
		R167	0RD2201F608	2.2K 1/6W 5 TA26
		R169	0RD1001F608	1.0K 1/6W 5 TA26
		R170	0RD1001F608	1.0K 1/6W 5 TA26
		R171	0RD3901F608	3.9K 1/6W 5 TA26
		R172	0RD1202F608	12K 1/6W 5 TA26
		R201	0RD4700F608	470 1/6W 5 TA26
		R302	0RD1002F608	10K 1/6W 5 TA26
		R303	0RD1802F608	18K 1/6W 5 TA26
		R304	0RD1002F608	10K 1/6W 5 TA26
		R305	0RD1501F608	1.5K 1/6W 5 TA26
		R306	0RD3300F608	330 1/6W 5 TA26
		R307	0RD3300F608	330 1/6W 5 TA26
		R308	0RD2701F608	2.7K 1/6W 5 TA26
		R309	0RD8200F608	820 1/6W 5 TA26
		R310	0RD1001F608	1.0K 1/6W 5 TA26
		R311	0RD4701F608	4.7K 1/6W 5 TA26
		R312	0RD1801F608	1.8K 1/6W 5 TA26
		R313	0RD3300F608	330 1/6W 5 TA26
		R316	0RD1500F608	150 1/6W 5 TA26
		R317	0RD8202F608	82K 1/6W 5 TA26
		R318	0RD4701F608	4.7K 1/6W 5 TA26
		R319	0RD1001F608	1.0K 1/6W 5 TA26
		R321	0RD1501F608	1.5K 1/6W 5 TA26
		R322	0RD8201F608	8.2K 1/6W 5 TA26
		R323	0RD5601F608	5.6K 1/6W 5 TA26
		R324	0RD1002F608	10K 1/6W 5 TA26
		R325	0RD1001F608	1.0K 1/6W 5 TA26
		R326	0RD2701F608	2.7K 1/6W 5 TA26
		R333	0RD5600F608	560 1/6W 5 TA26
		R335	0RD1802F608	18K 1/6W 5 TA26
		R337	0RD1802F608	18K 1/6W 5 TA26
		R338	0RD2700F608	270 1/6W 5 TA26
		R340	0RD1802F608	18K 1/6W 5 TA26
		R341	0RD2701F608	2.7K 1/6W 5 TA26
		R349	0RD5601F608	5.6K 1/6W 5 TA26
		R350	0RD4700F608	470 1/6W 5 TA26
		R3A1	0RD2201F608	2.2K 1/6W 5 TA26
		R3A2	0RD4702F608	47K 1/6W 5 TA26
		R3A3	0RD1001F608	1.0K 1/6W 5 TA26
		R3B1	0RD4701F608	4.7K 1/6W 5 TA26
		R402	0RD2204F608	2.2M 1/6W 5 TA26
		R403	0RD6801F608	6.8K 1/6W 5 TA26
		R404	0RD2700F608	270 1/6W 5 TA26
		R406	0RD2701F608	2.7K 1/6W 5 TA26
		R407	0RD2202F608	22K 1/6W 5 TA26
		R408	0RD2201F608	2.2K 1/6W 5 TA26
		R409	0RD4701F608	4.7K 1/6W 5 TA26
		R410	0RD1002F608	10K 1/6W 5 TA26
		R411	0RD2202F608	22K 1/6W 5 TA26
		R412	0RD1801F608	1.8K 1/6W 5 TA26
		R413	0RD8201F608	8.2K 1/6W 5 TA26
		R414	0RD1202F608	12K 1/6W 5 TA26
		R415	0RD3303F608	330K 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R416	0RD1500F608	150 1/6W 5 TA26
		R417	0RD1001F608	1.0K 1/6W 5 TA26
		R418	0RD2702F608	27K 1/6W 5 TA26
		R419	0RD0472F608	47 1/6W 5 TA26
		R420	0RD1001F608	1.0K 1/6W 5 TA26
		R421	0RD0221F608	2.2 1/6W 5 TA26
		R422	0RD5600F608	560 1/6W 5 TA26
		R424	0RD2700F608	270 1/6W 5 TA26
		R425	0RD4702F608	47K 1/6W 5 TA26
		R430	0RD3901F608	3.9K 1/6W 5 TA26
		R431	0RD4701F608	4.7K 1/6W 5 TA26
		R490	0RD4702F608	47K 1/6W 5 TA26
		R491	0RD1202F608	12K 1/6W 5 TA26
		R501	0RD1000F608	100 1/6W 5 TA26
		R502	0RD1000F608	100 1/6W 5 TA26
		R504	0RD1001F608	1.0K 1/6W 5 TA26
		R505	0RD1001F608	1.0K 1/6W 5 TA26
		R506	0RD1001F608	1.0K 1/6W 5 TA26
		R507	0RD1001F608	1.0K 1/6W 5 TA26
		R508	0RD3301F608	3.3K 1/6W 5 TA26
		R509	0RD1202F608	12K 1/6W 5 TA26
		R510	0RD2201F608	2.2K 1/6W 5 TA26
		R511	0RD1001F608	1.0K 1/6W 5 TA26
		R512	0RD1001F608	1.0K 1/6W 5 TA26
		R513	0RD1003F608	100K 1/6W 5 TA26
		R515	0RD2700F608	270 1/6W 5 TA26
		R517	0RD1004F608	1.0M 1/6W 5 TA26
		R518	0RD5600F608	560 1/6W 5 TA26
		R519	0RD2702F608	27K 1/6W 5 TA26
		R521	0RD3301F608	3.3K 1/6W 5 TA26
		R522	0RD1001F608	1.0K 1/6W 5 TA26
		R523	0RD1502F608	15K 1/6W 5 TA26
		R524	0RF0681J619	6.8 OHM 1 W 5% TR
		R525	0RD5601F608	5.6K 1/6W 5 TA26
		R526	0RD5601F608	5.6K 1/6W 5 TA26
		R527	0RD5600F608	560 1/6W 5 TA26
		R528	0RD1002F608	10K 1/6W 5 TA26
		R529	0RD1002F608	10K 1/6W 5 TA26
		R531	0RD1002F608	10K 1/6W 5 TA26
		R534	0RD1004F608	1.0M 1/6W 5 TA26
		R535	0RD4703F608	470K 1/6W 5 TA26
		R542	0RD2201F608	2.2K 1/6W 5 TA26
		R543	0RD1000F608	100 1/6W 5 TA26
		R544	0RD4701F608	4.7K 1/6W 5 TA26
		R545	0RD2201F608	2.2K 1/6W 5 TA26
		R546	0RD5601F608	5.6K 1/6W 5 TA26
		R547	0RD1202F608	12K 1/6W 5 TA26
		R548	0RD1003F608	100K 1/6W 5 TA26
		R550	0RD2200F608	220 1/6W 5 TA26
		R553	0RD2200F608	220 1/6W 5 TA26
		R555	0RD2200F608	220 1/6W 5 TA26
		R556	0RD2202F608	22K 1/6W 5 TA26
		R557	0RD2702F608	27K 1/6W 5 TA26
		R558	0RD2202F608	22K 1/6W 5 TA26
		R559	0RD4701F608	4.7K 1/6W 5 TA26
		R560	0RD4701F608	4.7K 1/6W 5 TA26
		R561	0RD5600F608	560 1/6W 5 TA26
		R562	0RD5600F608	560 1/6W 5 TA26
		R563	0RD1002F608	10K 1/6W 5 TA26
		R564	0RD2702F608	27K 1/6W 5 TA26
		R567	0RD8200F608	820 1/6W 5 TA26
		R568	0RD6803F608	680K 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R569	0RD1004F608	1.0M 1/6W 5 TA26
		R570	0RD4701F608	4.7K 1/6W 5 TA26
		R575	0RD4701F608	4.7K 1/6W 5 TA26
		R576	0RD4701F608	4.7K 1/6W 5 TA26
		R577	0RD4701F608	4.7K 1/6W 5 TA26
		R578	0RD4701F608	4.7K 1/6W 5 TA26
		R579	0RD5602F608	56K 1/6W 5 TA26
		R581	0RD6802F608	68K 1/6W 5 TA26
		R583	0RD1002F608	10K 1/6W 5 TA26
		R586	0RD2201F608	2.2K 1/6W 5 TA26
		R589	0RD1004F608	1.0M 1/6W 5 TA26
		R590	0RD1001F608	1.0K 1/6W 5 TA26
		R591	0RD4700F608	470 1/6W 5 TA26
		R5B1	0RD1001F608	1.0K 1/6W 5 TA26
		R5B3	0RD1001F608	1.0K 1/6W 5 TA26
		R5B4	0RD1001F608	1.0K 1/6W 5 TA26
		R5B5	0RD1000F608	100 1/6W 5 TA26
		R5C1	0RD1001F608	1.0K 1/6W 5 TA26
		R5C2	0RD1001F608	1.0K 1/6W 5 TA26
		R5C3	0RD1001F608	1.0K 1/6W 5 TA26
		R5C4	0RD1001F608	1.0K 1/6W 5 TA26
		R5C5	0RD1001F608	1.0K 1/6W 5 TA26
		R5C6	0RD1001F608	1.0K 1/6W 5 TA26
		R5C7	0RD1001F608	1.0K 1/6W 5 TA26
		R5C9	0RD1002F608	10K 1/6W 5 TA26
		R5E7	0RD1002F608	10K 1/6W 5 TA26
		R5E8	0RD1002F608	10K 1/6W 5 TA26
		R5F0	0RD0102F608	10 1/6W 5 TA26
		R5F1	0RD0102F608	10 1/6W 5 TA26
		R5F2	0RD0102F608	10 1/6W 5 TA26
		R5F3	0RD0102F608	10 1/6W 5 TA26
		R5F4	0RD2200F608	220 1/6W 5 TA26
		R5F5	0RD1001F608	1.0K 1/6W 5 TA26
		R5F6	0RD1001F608	1.0K 1/6W 5 TA26
		R5F7	0RD1001F608	1.0K 1/6W 5 TA26
		R5F8	0RD2702F608	27K 1/6W 5 TA26
		R5F9	0RD1001F608	1.0K 1/6W 5 TA26
		R5G0	0RD2702F608	27K 1/6W 5 TA26
		R5G1	0RD2702F608	27K 1/6W 5 TA26
		R5G2	0RD2702F608	27K 1/6W 5 TA26
		R5G3	0RD2702F608	27K 1/6W 5 TA26
		R5G4	0RD2702F608	27K 1/6W 5 TA26
		R5G5	0RD2702F608	27K 1/6W 5 TA26
		R5G6	0RD2702F608	27K 1/6W 5 TA26
		R5G7	0RD2702F608	27K 1/6W 5 TA26
		R5H0	0RD2702F608	27K 1/6W 5 TA26
		R5H1	0RD0562F608	56 1/6W 5 TA26
		R5H2	0RD3300F608	330 1/6W 5 TA26
		R5H3	0RD0752F608	75 1/6W 5 TA26
		R5K1	0RD1801F608	1.8K 1/6W 5 TA26
		R5K3	0RD2201F608	2.2K 1/6W 5 TA26
		R5R1	0RD2700F608	270 1/6W 5 TA26
		R5R2	0RD3901F608	3.9K 1/6W 5 TA26
		R5S2	0RD6801F608	6.8K 1/6W 5 TA26
		R5S3	0RD3300F608	330 1/6W 5 TA26
		R5T2	0RD1801F608	1.8K 1/6W 5 TA26
		R5T3	0RD1501F608	1.5K 1/6W 5 TA26
		R5T4	0RD2701F608	2.7K 1/6W 5 TA26
		R5V1	0RD2201F608	2.2K 1/6W 5 TA26
		R5V2	0RD1501F608	1.5K 1/6W 5 TA26
		R5W2	0RD2202F608	22K 1/6W 5 TA26
		R5W3	0RD0102F608	10 1/6W 5 TA26

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
		R704	0RD4700F608	470 1/6W 5 TA26
		R706	0RD2200F608	220 1/6W 5 TA26
		R707	0RD1000F608	100 1/6W 5 TA26
		R751	0RD1001F608	1.0K 1/6W 5 TA26
		R752	0RD1000F608	100 1/6W 5 TA26
		R753	0RD1000F608	100 1/6W 5 TA26
		R754	0RD6800F608	680 1/6W 5 TA26
		R755	0RD6800F608	680 1/6W 5 TA26
		R756	0RD2201F608	2.2K 1/6W 5 TA26
		R757	0RD2201F608	2.2K 1/6W 5 TA26
		R758	0RD3902F608	39K 1/6W 5 TA26
		R7M1	0RD1001F608	1.0K 1/6W 5 TA26
		R7M3	0RD1001F608	1.0K 1/6W 5 TA26
		R7M5	0RD2200F608	220 1/6W 5 TA26
		R7V4	0RD2201F608	2.2K 1/6W 5 TA26
		R7V5	0RD1002F608	10K 1/6W 5 TA26
		R7V6	0RD5601F608	5.6K 1/6W 5 TA26
		R817	0RD3304F608	3.3M 1/6W 5 TA26
		R818	0RD3302F608	33K 1/6W 5 TA26
		R819	0RD2701F608	2.7K 1/6W 5 TA26
		R820	0RD3902F608	39K 1/6W 5 TA26
		R821	0RD2701F608	2.7K 1/6W 5 TA26
		R822	0RD3302F608	33K 1/6W 5 TA26
		R823	0RD4700F608	470 1/6W 5 TA26
		R824	0RD1000F608	100 1/6W 5 TA26
		R825	0RD5600F608	560 1/6W 5 TA26
		R826	0RD1802F608	18K 1/6W 5 TA26
		R827	0RD1002F608	10K 1/6W 5 TA26
		R828	0RD1001F608	1.0K 1/6W 5 TA26
		R829	0RD4702F608	47K 1/6W 5 TA26
		R830	0RD4702F608	47K 1/6W 5 TA26
		R831	0RD1001F608	1.0K 1/6W 5 TA26
		R901	0RD0752F608	75 1/6W 5 TA26
		R902	0RD0752F608	75 1/6W 5 TA26
		R905	0RD5600F608	560 1/6W 5 TA26
		R906	0RD5600F608	560 1/6W 5 TA26
		R911	0RD0752F608	75 1/6W 5 TA26
		R912	0RD0752F608	75 1/6W 5 TA26
		R915	0RD5600F608	560 1/6W 5 TA26
		R916	0RD5600F608	560 1/6W 5 TA26
		R925	0RD5600F608	560 1/6W 5 TA26
		R926	0RD5600F608	560 1/6W 5 TA26
		R933	0RD1202F608	12K 1/6W 5 TA26
		R934	0RD1002F608	10K 1/6W 5 TA26
		R947	0RD3300F608	330 1/6W 5 TA26
		R948	0RD3300F608	330 1/6W 5 TA26
		R949	0RD1000F608	100 1/6W 5 TA26
		R950	0RD1000F608	100 1/6W 5 TA26
		R981	0RD2201F608	2.2K 1/6W 5 TA26
		R982	0RD2201F608	2.2K 1/6W 5 TA26

REMOCON RECEIVER

		RC5F1	6712R2038GC	TSOP1838QJ1 TEMIC 20MM 37.9KHZ

SENSOR

		ES501	4931R-0016A	END
		ES502	4931R-0016A	END
		IC102	657-062B	PC123Y PHOTO-COUPLER(SARPH)
		LD501	4931R-0017A	LED
		RS501	6500RAB002A	GP1S566 SHARP D-33 REEL SENSOR
		RS502	6500RAB002A	GP1S566 SHARP D-33 REEL SENSOR

S	AL	LOCA.NO	PART NO(GS)	SPECIFICATION
			SWITCH	
	OR	CS501	6600RDB004B	SPPB62042 ALPS UL 5V 0A HORIZO
		CS501	6600RDB004C	MPU10252MLB4 MIC NON 5V 0.01A
		MS501	6600RPY001B	MMS00420ZMBO MIC NON 5V 1MA VE
		SW5K1	556-282C	SKQNQED ALPS 5MM 12V/50MAV TAC
		SW5K2	556-282C	SKQNQED ALPS 5MM 12V/50MAV TAC
		SW5K3	556-282C	SKQNQED ALPS 5MM 12V/50MAV TAC
		SW5R1	556-282C	SKQNQED ALPS 5MM 12V/50MAV TAC
		SW5T1	556-282C	SKQNQED ALPS 5MM 12V/50MAV TAC
		SW5T2	556-282C	SKQNQED ALPS 5MM 12V/50MAV TAC
		SW5T3	556-282C	SKQNQED ALPS 5MM 12V/50MAV TAC
		SW5T4	556-282C	SKQNQED ALPS 5MM 12V/50MAV TAC
		SW5V1	556-282C	SKQNQED ALPS 5MM 12V/50MAV TAC
		SW5V2	556-282C	SKQNQED ALPS 5MM 12V/50MAV TAC
			TUNER	
	OR	TU701	6700RP3G01E	TCMK0601PD08C SS G/K/I HIFI 3I
		TU701	6700RP3L02E	TADC-G006D LGC&D G/K/I HIFI 3I
			VARIABLE RESISTOR	
		VR501	613-032W	RH063MCJ5R (220K)
			CRYSTAL	
	OR	X502	529-001B	32.768KHZ 3*8,KDS
		X502	529-001K	32.768KHZ SEIKO
		X751	529-021Q	49U KJE RADIAL 18432000HZ 30PP
			RESONATOR	
	OR	X301	6202R1443AC	X-TAL 4.433709M 15PPM SER KJE
	OR	X301	6202R1443AD	4.433709M 15PPM SER SUNNY
		X301	6202R1443AE	TAEIL HC49U 4.433709MHZ 15PPM
	OR	X501	6202R31001E	ATS TAEIL RADIAL 10.0000MHZ 30
		X501	6202R31001F	HC-49S KEUMSEOK RADIAL 10.0000
	OR	X503	6202R31771E	ATS TAEIL RADIAL 17.734476MHZ
		X503	6202R31771F	HC-49S KEUMSEOK RADIAL 17.7344
		X5F1	618-010B	CSTS0400MG03-T2 MURATA 4MHZ TP
	OR	X7V1	6202R31771E	ATS TAEIL RADIAL 17.734476MHZ
		X7V1	6202R31771F	HC-49S KEUMSEOK RADIAL 17.7344
			ZENER DIODE	
		ZD104	0DZ560009CA	MTZ5.6B TP ROHM-K
		ZD151	0DZ130009AA	MTZ13A TP ROHM-K
		ZD152	0DZ100009FA	MTZ10-C T-77 10V TP,ROHM/K
		ZD153	0DZ130009AA	MTZ13A TP ROHM-K
		ZD501	0DZ680009CA	MTZ6.8C TP ROHM-K
		ZD503	0DZ620009AA	MTZ6.2B (TA)
		ZD5F1	0DZ510009EB	MTZ5.1B 0.5W TP ROHM-K
		ZD5F2	0DZ620009AA	MTZ6.2B (TA)
		ZD5F3	0DZ620009AA	MTZ6.2B (TA)
		ZD5F4	0DZ130009AA	MTZ13A TP ROHM-K
		ZD5F5	0DZ130009AA	MTZ13A TP ROHM-K
		ZD5F6	0DZ130009AA	MTZ13A TP ROHM-K
		ZD5F7	0DZ130009AA	MTZ13A TP ROHM-K
		ZD701	0DZ330009AF	MTZ33B,TP,ROHM-K
		ZD801	0DZ560009CA	MTZ5.6B TP ROHM-K
		ZD802	0DZ130009AA	MTZ13A TP ROHM-K
		ZD805	0DZ510009EB	MTZ5.1B 0.5W TP ROHM-K
		ZD806	0DZ510009EB	MTZ5.1B 0.5W TP ROHM-K
		ZD807	0DZ130009AA	MTZ13A TP ROHM-K
		ZD808	0DZ560009CA	MTZ5.6B TP ROHM-K

MEMO